DOMESTIC ENGINEERING

The Plumbing and Heating Weekly

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A Visit to "Tottertown"

Albert W. Barker.

YOU have been in this place, for there are many Tottertowns. Perhaps you live there. And, if you do, perhaps it's time that you helped to pull it out of its tottering state. It was something like this that The National Trade Extension Bureau had in mind when it announced the February campaign, "Better Sanitation in Public Places."

And it was something like this that Albert W. Barker had in mind when he wrote the interesting story, "Tottertown," which will be in next week's "Domestic Engineering."

You remember his story, "Practice What You Preach," January 6th. Well, "Tottertown" will be better. It has what critics call "the O. Henry twist," if you know what that is.

"Tottertown" will help along the February campaign. It's a show-how story. Then, too, it's the kind of a story that a dealer or an association can hand to a local editor for reprinting. Editors like this kind of a story, particularly when they can get it without cost.

Remember! "Tottertown" next week, February 3d. It backs up the better sanitation drive.

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A traveling salesman, a hotel, a pretty girl, a man stung out of his sleep, a plumber, and what happened makes up "Tottertown".

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Making Marks on Paper

WE all do it. We talk with our pencils. Even as we telephone we make strange marks that may mean—what? In plumbing and heating everything depends upon marks on paper. Without these marks—up and down, lengthwise, curved—what would the plumber or steam fitter do?

From apprentice to master, and from the first thought of a job until the job is finished—every step—drawings are the guides that guide to safety and success.

With all this in mind, R. M. Starbuck has prepared a series which will soon appear in "Domestic Engineering." No matter who you are or where you are, you owe it to yourself to begin this series at the beginning. After that you should follow through from week to week.

The series will deal with more than drawing. It will reach out to most of the kinks and wrinkles of plumbing. But it will always come back to drawing, for, as you know, drawing is the foundation of the industry.

And who is R. M. Starbuck? If there is a plumber who does not know Starbuck, and does not know that he knows plumbing, then that plumber isn't as much of a plumber as he thinks he is.

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"Unless a man can diagram his ideas on paper, his ideas are not worth much." So said the late John Patterson, who, it might be said, built the National Cash Register Company with diagrams.

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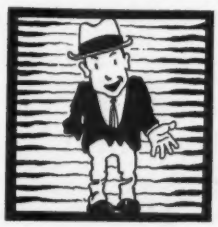
The Calendar of Fact and Fancy



WERE you one of the many who liked the "Calendar of Fact and Fancy" for January? Most everybody in the plumbing and heating industries seemed to get a number of thoughts, and an equal number of smiles, out of this newest monthly feature.

Every reader who read the Calendar for January will want to read it for February. That you may not miss it, this is to say that the second Calendar will fill a page next week, February 3d.

This Calendar does two things. It states a fact that you may have overlooked. Then it follows the fact with a smile that makes the fact all the better.

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"He serves me well who gives me food for thought, but he who washes that food down with smiles serves me better."

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Pictures from Paris

JUST as these lines are written the mail from Paris brought three pictures. They are pictures of three French bathrooms, designed by a great firm of interior decorators. The pictures are for our picture page, which is the next page after this.

The picture page is a hit. Manufacturers, jobbers, dealers, contractors—all say so.

Many are sending in pictures for the picture page, and everybody is invited to do the same. On the back of each picture you send please write plainly the names, where and when taken, and what all the posing's for.

There isn't anything like pictures for getting acquainted, nor for understanding what you have done or are doing.

"Say it with pictures, and say it often," says the picture page editor.

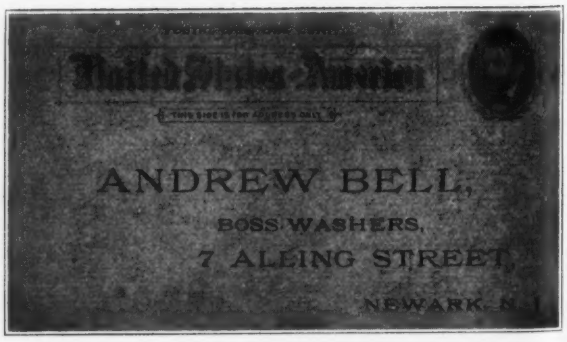
A Fine Store and a Fine Family. It's Anton Jakoby, 3121 Kensington Ave., Philadelphia, and His Boys.

The "Big Three" of the Plumbing and Heating Field in Atlantic City, on Steps of City Hall. L. to R., B. H. Sooy, Chief Plumbing Inspector, W. J. Gaughan, Assistant Plumbing Inspector and M. H. Towhey, Gas and Boiler Inspector.

The Employes of the E. Stebbins Mfg. Co., of Springfield, Mass., Get Together Every Few Weeks for a "Stebbins Night." Ray H. Smith, Vice-President and General Sales Manager, Is Not Only a Good Business Man But a Good Entertainer and Here He Is Ready for Both Business and Entertainment. "Stebbins Nights" Are Usually Held at the Springfield Y. M. C. A. Dances, Vaudeville, Plays, Banquets, Speeches, Songs and Music Are Features of These Entertainments. Great Versatility Is Shown by the Employes in Planning and in Presenting These Evenings of Pleasure, Which in Many Instances, Eclipse Even the Best Professional Talent.

T. E. Tootell and Frank Ashbrant, Both Plumbers of Trenton, N. J.

H. D. Chappell, Recently Appointed Assistant to J. J. Hurley, Representative of Sloan Valve Co. at Detroit.



Andrew Bell, Manufacturer of Bell Washers, Used Cards Like This When Grant Was President. His Son, Henry R. Bell, of Newark, N. J., Who Has Followed in His Father's Footsteps, Has Kept This Card in Remembrance of His Father.

Something New Under the Sun

THERE is nothing new under the sun, you say? Possibly. There is no novelty in the plumbing business? You think that plumbing is sort of a humdrum profession at the best, a good moneymaker at times, but not allowing for much originality in either the method of handling the business or arranging the store? Possibly you are right again. But don't be too sure until you have become acquainted with Grassler & Gezelschap, Milwaukee. Maybe there is something new under the sun after all. Yes, yes—maybe so.

OF COURSE Ed. Grassler and Charlie Gezelschap always had been "buddies." As far back as forty-seven years ago they had been loafing around together in off moments, and working together at other times. And if anyone had happened to stop in at the old Hoffman-Billings shop at that time, looking for Ed, he would have probably run across Charlie, too, for they were both learning the plumbing trade at that time.

But if the same person had happened to stop in the same shop four years later, say in 1880, he couldn't have found either one of the two boys. For they had learned their trade, and together they had started out to "look around a bit." And then for two years it would have been difficult to trace their wanderings. Ed. followed Charlie to St. Louis, then Charlie followed Ed. to Minneapolis, then they both decided to try Chicago, then Cincinnati, then Chicago, and so on for several years. They were rolling stones, but they found it agreeable and easy to roll along together.

So, naturally, when they both found themselves in Milwaukee again, in 1884, they looked around for some proposition that they could tackle together. Plumbing wasn't all they knew. Hardly, after four years on the road. But they very wisely figured that plumbing was the thing that they knew best, and plumbing looked like the logical field for them to continue in.

THE PRACTICAL AND THE ARTISTIC

IT must have been Ed. Grassler who suggested that they go in for themselves. For along with his excellent knowledge of the handling of the tools of the craft, he had a canny business sense that could not be suppressed. He knew that he would never be satisfied until he saw the name of Grassler hanging over the entrance to some kind of a place of business.

Now, although there were no flies on Charlie, as far as business was concerned, he had another leaning that is all too uncommon in the plumbing and heating business. He had a finely developed sense of appreciation for the artistic and the beautiful. And while he fully understood the necessity for, and the value of, things purely mechanical, his interest lay along the path of beauty. To him a fine piece of lead work—forty years ago, remember—was something to delight the eye as much as something to conduct water or carry off waste.

This is purely supposition, but maybe—just maybe—if Ed hadn't had Charlie he would have established a shop that would have been strictly matter of fact, and all plumbing. Perhaps there wouldn't have even been any display to speak of. And then, to continue on suppositions, perhaps if Charlie hadn't had Ed, he would eventually have wound up with an art store. The kind of shop that they spell "shoppe," and charge "shoppe prices" for everything. Who knows?

But there were two of them, and they pooled their interests and their suggestions. The natural outcome was a shop that, while it is a real plumbing and heating institution, combines this extremely practical business with an establishment and a display that is just a little different from anything to be found anywhere else in the country.

The first location occupied by the store was at 290 West Water Street, but several years later they purchased a property at 213 Third Street, Milwaukee. And the four-story building that was built there stands as a monument to the personalities, the similarities and the differences of the two men who own it.

In the early days of the plumbing business gas was the very last word in lighting. The old kerosene lamp and the tallow candles had given way in the better homes to gas light. And with this new and better illumination there grew a market for gas light fixtures. Live plumbers then were much the same as live plumbers now. They saw an opportunity when it presented itself and turned it to advantage.

So, in the demand for chandeliers, Grassler and Gezelschap saw a chance to link up their business of plumbing and gasfitting with the merchandising of the fixtures that their gas pipes would connect.

Here, then, was an outstanding opportunity for Mr. Gezelschap. If they were going to sell gas lighting fixtures, he would see that they handled a line of fixtures that they would be proud to see hanging in the store, and that the owner would be proud to see hanging in his home. So, along with their stock of the old reliables, that just projected out of the wall and turned up, ready to be lit, they put in a supply of art fixtures.

ONLY THE BEST WAS GOOD ENOUGH

HE bought the best that this country produced, and then, to add novelty to the line, he bought the best that other countries produced. He imported goods—no better than the home product, perhaps, but at any rate entirely different. And the buying public of Milwaukee, or that part of the buying public which is interested in combining beauty with utility, began to look to Grassler & Gezelschap for suggestions on interior decoration, and entirely apart from the materials concerned directly with plumbing.

. And, as the demand was there, and the reputation established, the two partners saw that here awaited a field for further expansion. They enlarged their imports. They went to Italy for marbles, and today the showroom contains pieces of valuable statuary that cannot be duplicated anywhere in Wisconsin. For bronzes they called on the best available in France and Germany; Austria supplied rare and beautiful examples of the glass maker's art.

Soon Grassler & Gezelschap had built for themselves the reputation of being the biggest importers in Milwaukee. And the biggest anything in Milwaukee is generally the biggest in the state of Wisconsin.

As gas lighting and gasfitting began to give way to

the increased use of electricity for all domestic purposes, this company quite naturally began to adjust itself to new and changing conditions. Milwaukee looked to Grassler & Gezelschap for the best in lighting fixtures during the gas lighting period. Why should Grassler & Gezelschap step down and out now that gas was going out of use. No reason. And they didn't.

They merely took this for an invitation to enlarge, so electrical fixtures were added, and since electrical fixtures require electrical wiring, an electrical wiring department was added. And to Mr. Gezelschap this change represented a glorious opportunity for the development of his artistic ideas and new creations were added.

THEN THEY MADE THINGS

OCCASIONALLY they couldn't buy just what they wanted, so they made it themselves. This gave rise to another department. They started to manufacture various kinds of art goods on a large scale. And since then their fame has spread. People all over the state heard of Grassler & Gezelschap's products, and so salesmen were sent out to develop new territories. They spread over into other states, and now Michigan, Wisconsin, Illinois and Minnesota are covered by salesmen of this firm.

"Yes," Mr. Average Dealer may be remarking to himself, "that is all very fine, but it isn't plumbing. I bet the plumbing and heating end of it is shoved into a back corner, probably gasping its last breath by this time." If he is reflecting thus, he is wrong again. The plumbing and heating business is, after all, THE business of the firm. "Plumbing and Heating" is what you read on the big sign that stretches clear across the front of the store. Plumbing and heating is what you think and hear when you talk to Ed. Grassler, who has charge of these departments.

It was the plumbing and heating that advanced Ed. Grassler to the presidency of the Wisconsin State Master Plumbers' Association in 1917, and then to the presidency of the Heating and Piping Contractors' National Association in 1918.

Charles Gezelschap, Milwaukee.

Edmund Grassler, Milwaukee.

EVERY JOB PAYS A PROFIT

HERE, by the way, is something that is even more important than the list of jobs completed. They were all done at a profit. Why? Because Grassler & Gezelschap tell them what the job will cost after it is done, and not before it is started. They have established a reputation that allows them to pass up all competitive work, and still employ sixty men.

"Time and material is the only basis on which we take a job," says Ed. Grassler, and hundreds of people have been perfectly willing to trust their work to him under that agreement.

But before we start away you would, perhaps, like to look at the store, through "borrowed spectacles," as The Onlooker says.

The very appearance of the store from the outside gives the visitor the immediate impression that if this is a plumbing establishment, it is one that is different. It is constructed of gray stone and tapestry brick and the whole front of the building is occupied by one large plate glass window. Two carved stone figures form the supports for an arch over the doorway.

Notice the window display. Clever draping of silk or velvet about one or two central objects gives the impression of richness and luxury. There is not the usual hodgepodge of a hundred different articles, all calling for attention. Just a few examples of the many worth while things that can be seen inside. The window extends a silent but hearty invitation to step into the store.

The many who step inside find that the same artistic atmosphere prevails. All is neatness and harmony. There is none of the confusion of thousands of articles to distract attention. Here is a plumbing and heating establishment in which beauty has been carried to the last degree, without sacrificing a particle of efficiency.

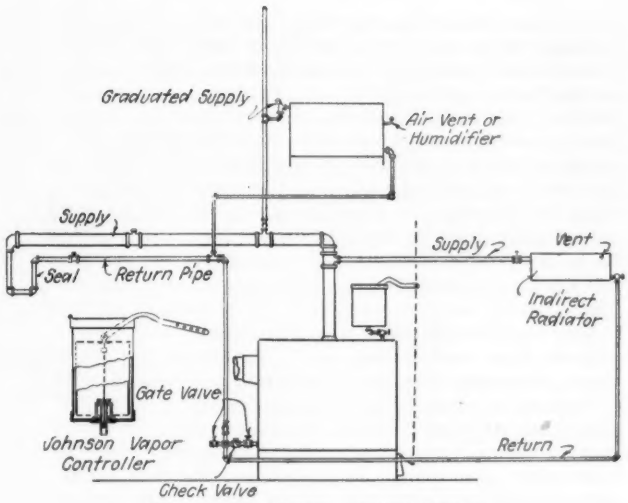
So if anyone ever tells you that there is nothing new under the sun, or that there is no novelty or beauty connected with the business of running a plumbing establishment, tell him to take a day off when he is passing through Milwaukee and spend it with Grassler & Gezelschap.

Vacuum - Vapor Heating Systems

The Last of a Series of Articles Containing a Complete Treatise on Vapor and Vacuum Heating, With Many Illustrations*

By E. R. Pierce

(Continued from Page 34 in the January 6th Issue.)



The Johnson Vapor Heating System.

The Johnson Vapor Heating System

THIS system is being made by the Johnson Vapor Heating Company, of Boston, Massachusetts. It consists of a fairly sensitive damper regulator and a graduated supply valve. As will be seen from the typical installation shown herewith, it is a two-pipe system and, in connection with the damper regulator and the graduated valve, a specially constructed smoke pipe damper, not shown in the illustration, to be used in connection with the damper regulator. This damper is provided with an arm, or lever of certain length with eight holes, ¾ inch, on centers, so that a regulating weight can be moved from or toward center of damper to decrease the pressure, or increase it in ounces, from one to eight. The radiators have attached to the place usually provided for the air vent valve, a small vent fitting with a minute hole drilled in it to permit the escape of any air that may be in the system, and also act as a humidifier by the constant emission of vapor to the room in which the radiator is placed.

The supply valve for the radiators is of the graduated type. It can be fairly classed as an "open end to each radiator" proposition.

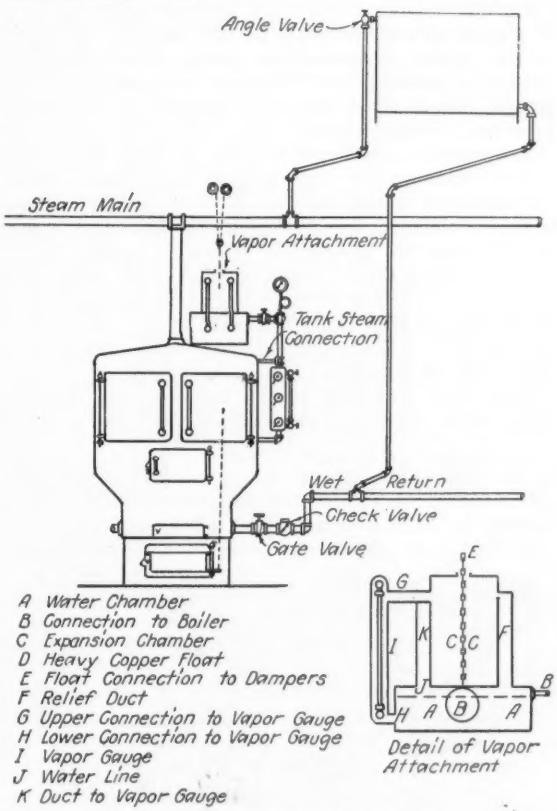
The Doody Vapor System

WHILE the Kansas Company offers a steam trap, as the only equipment needed for its system of vapor heating, the Doody Vapor Heating Company, of Boston, Massachusetts, offers another extreme and presents a specially constructed damper regulator, as the only special equipment required, with the exception of an air vent plug, which is drilled for an air and vapor vent, permitting a constant evaporation into the room of vapor. This is continuous, and the resulting moisture is at times not altogether to be desired.

The accompanying illustration gives an idea of the location of the damper regulator on the top of the boiler. Sometimes it is placed on a shelf near the boiler, and again on the brick work of a brick-set boiler.

The damper itself is as simple as a big can holding a smaller one securely fastened to the big one, so that the smaller can, which is open at the bottom, will not quite reach to the bottom of the large can. Through the top of the small can is provided an opening for a chain which is attached to a large copper float inside the can, and the other end of the chain is carried over pulleys to the boiler front and back dampers.

For some people an ordinary angle supply valve is furnished, to those more particular a graduated supply valve, an ordinary elbow completes the equipment, when the vent plug has been attached to hot water radiators these may be used. For hot water radiators the plug, properly drilled to let the air and vapor out into the room, is placed at the same height that the steam radiator valve opening is made.



The Doody Vapor Heating System.

The directions for operating the system for the first time are as follows: "Be sure that the valve on the attachment pipe to the steam dome of the boiler is open and then pour about six gallons of water into the large can. Leave this valve open. See that the water stands

*From "A Practical Manual of Steam, Vapor and Hot Water Heating," by E. R. Pierce. Just Published by Domestic Engineering Co.

at the same level in the two gauge glasses" (attached to the top of the small can and the bottom of the larger one). "Keep the dampers and pulleys easy running and free from friction. Adjust the dampers so as to close them on a pressure of one ounce and upwards as desired. Do not carry a fire so hot that it will cause the relief valve to open when all dampers are closed. In case of an excessive draft in the chimney, it may be necessary to put a damper in the chimney flue to be adjusted by hand in times of high wind."

There is no doubt that this, as well as the Johnson vapor heat system, also of Boston, can be classed as a vapor proposition.

Possibly, to some, it may seem as though with either of these open end systems there may be at times rather more vapor than air moistening requirements of the rooms actually necessitate. But then, some people prefer very moist air to breathe.

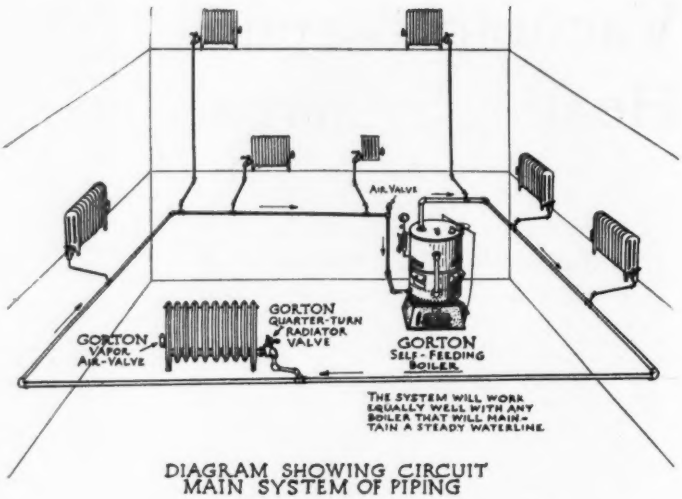

AIR VALVE
GORTON QUARTER-TURN RADIATOR VALVE
GORTON VAPOR AIR-VALVE
GORTON SELF-FEEDING BOILER
THE SYSTEM WILL WORK EQUALLY WELL WITH ANY BOILER THAT WILL MAINTAIN A STEADY WATERLINE

DIAGRAM SHOWING CIRCUIT MAIN SYSTEM OF PIPING

The Gorton Single Pipe Vapor Heating System.

The Gorton Single Pipe Vapor Heating System

THE Gorton & Lidgerwood Co., of New York City, quite recently brought out what it termed a single pipe vapor system. This calls attention to the fact that each year adds to the increasing list of improvements which tend to simplify the production of vapor heating systems.

The Gorton single pipe vapor heating system seems to be a quite natural induction of the basic idea developed in the Gorton vacuum-vapor system many years ago (which is described and illustrated on page 272 of the revised edition of the Practical Manual, and was reproduced in "Domestic Engineering," November 18, 1922).

A comparison of the illustration showing the present Gorton vapor system with that of the original Gorton vacuum-vapor system discloses that the earlier attempt in the development of the Gorton one-pipe vapor system was by using the piping idea applied as proper for the Gorton vacuum-vapor system running both ways from the boiler, and either a wet or dry return coming back to the boiler, the lines being connected at the back part of the basement instead of the front, near the boiler, as in the Gorton vacuum-vapor system.

This single pipe vapor system has discarded the automatic relief valve and the vacuum valve set near the boiler in the original system, and in its place a specially constructed air relief valve is put on each radiator. Regular steam radiators are also used in preference to water radiators. The supply valve opens wide with one-quarter turn. The air valve is not of the thermostatic type. It provides about four times greater air outlet than the ordinary air valve.

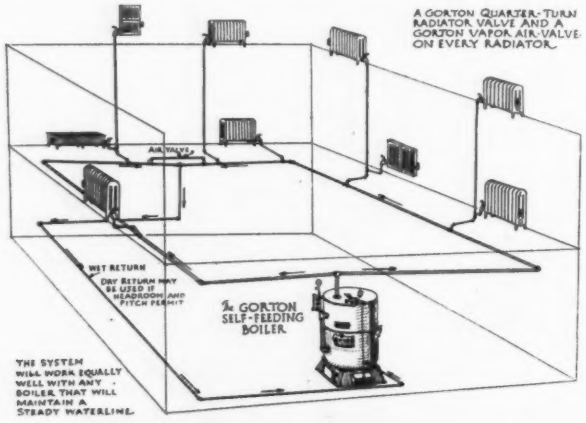

A GORTON QUARTER-TURN RADIATOR VALVE AND A GORTON VAPOR AIR-VALVE ON EVERY RADIATOR
AIR VALVE
WET RETURN
DRY RETURN MAY BE USED IF HEADROOM AND PITCH PERMIT
THE GORTON SELF-FEEDING BOILER
THE SYSTEM WILL WORK EQUALLY WELL WITH ANY BOILER THAT WILL MAINTAIN A STEADY WATERLINE

DIAGRAM SHOWING STEAM MAIN BRANCHING BOTH WAYS FROM BOILER WITH EITHER WET OR DRY RETURN BACK TO BOILER.

The Gorton Vacuum-Vapor Heating System.

Because of this great amount of opening, the air is freed from the system with a very small pressure. Owing to the construction of the air valve the vapor, which first reaches it, condenses very rapidly on the inside of the shell and on the outer surface of the bottom of the hollow chamber inside the valve. It is claimed that this condensation runs down on to the shoulder of the outer shell upon which the hollow chamber nearly seats and forms a water seal which is also open to the atmosphere and therefore permits a very slight pressure of vapor to lift the hollow metal chamber to its seat and closing the escape of vapor.

As this vapor pressure decreases to a point where it is balanced by the atmospheric pressure, the slight weight of the hollow chamber added to that of the atmosphere throws the valve open wide, and it will remain open until vapor pressure is again delivered to the valve.

There is no attempt to differentiate the supply of steam at the supply valve. In fact it seems to be necessary that the largest amount of vapor possible be delivered quickly and constantly.

A steam gauge, starting at one-quarter pound pressure and advancing by ounces in its marking to ten pounds pressure, and thence to thirty pounds with five pounds markings, is provided, and also a vapor draught regulator operating at four ounces or over.

This is without question a straight pressure system ranging from four ounces to the blow-off point of cast iron boilers, or to even thirty pounds, if safety valve is set for so high a pressure.

This probably indicates the early experiments, and the accompanying illustration shows the idea somewhat simplified as to the piping layout.

Steam radiators, or the hot water type, can be used, and it would seem to be of considerable interest to parties desiring to change certain types of water, and old steam, systems which are sluggish in their action to something that will operate at a very low pressure.

The only special objection that can be easily raised against the new Gorton vapor system will be as to the

possibility of the air valve failing to secure the water seal needed to start it into action. With care in the manufacture of the valve it would never develop that condition. Any dust which might settle on the shoulder, where the water seal is made by condensation, or on the ground cone seat controlled by the hollow chamber, would be dislodged by the force of the incoming vapor without doubt.

It would seem, however, that great care should be taken to clean the boiler from the dirt and oil when the system is put in as a new heating system. When clean, and free from oil, it should perform satisfactorily, and prove a very economical steam vapor system.

Conclusion

THE importance to the average heating contractor of a rather complete knowledge of the various types of vacuum, vacuum-vapor and straight vapor heating systems, and the quite complete lack of this information in such form that it could be easily studied, and sufficient information gained in regard to each type, has prompted me to give the general history of the growth of these systems from the first mechanically produced vacuum system, the Williames, down to the latest type of vapor systems, which provide for expelling the air through some automatic trap, and for good measure, I have added some examples of a type called vapor heating systems that expel the air, and vapor, also, directly into the occupied rooms. These latter are simply examples of what can be distributed in the way of vapor by leaving an open end at each radiator.

While no pretense is made of fine draughtmanship in the figures or illustrations presented, it is hoped that the illustrations and text combined will enable any reader to understand clearly the peculiar equipment required in each of the twenty-five examples.

Steam fitters are often called upon to look for the reason customer's heating system fails to operate properly.

There is not one chance in a hundred that there will be any trouble with the air trap in any vapor system now on the market. At least 90 per cent of such cases will be found to consist in some sag in an air pipe line, especially those that are run with a slight pitch, or in the dirty condition of the water in the boiler. It is difficult to produce steam from mud, and often straight steam jobs as well as vapor heating boilers gather such a quantity of sediment at the bottom of the boiler that when the attempt to heat is made it is found nearly impossible to create dry steam. For successful steam or vapor heat, clean water free from mud, oil, old boiler compounds that have from time to time been used in a boiler and not properly washed out before starting up the system, and perhaps other conditions that have conspired to create the water in the boiler unfit to make dry steam, is required.

Sags in the air line, dirty water in the boiler, imperfectly adjusted damper, and thermostat connections, foul chimney and smoke pipe, and boiler flues in cast iron boilers that have not been kept clean, constitute either singly or combined at least 90 per cent of the troubles that a steam fitter is called upon to clear up in any system, steam or vapor, that has ever operated successfully.

Vapor heating is no different than any other system using water in one form or another as the heat distributing medium.

It is probable that there is not one single vapor system, which provides any sort of an air expeller and condensation trap at the end of the return main that, when installed, worked in a satisfactory way, that has ever developed a defect in the air relief.

One may think that because a system does not continue to work satisfactorily and appears to be air-bound, that the trouble must be in the air relief, but the binding is not at the air relief at the end of the return main. That is an open end until steam reaches it. The air-bound spot will be found somewhere else.

In the matter of piping for vapor heating there is as much difference among the producers of these systems as there was, and is now, among the old time steam or hot water systems.

As a basic rule, however, the pipe sizes created for the use of the earlier producers of non-mechanical vapor systems, are safe to follow, if a case should arise where it became necessary to run the main lines before special instructions could be secured from the promoters of any individual system.

It is not good practice to start any main for a vapor job, even if the total radiation did not exceed 150 ft. with less than a two-inch pipe. Some of the systems quote for 150 sq. ft. a 1½-inch main, if the entire length of the circuit is not over 75 to 100 ft.

The trouble with any attempt to give a standard list of piping mains is in deciding what length of main shall be considered as standard.

The question has finally settled down to a length of 100 ft. of straight pipe. But the small job is very liable to have a number of fittings that increase the friction length to a very considerable extent, and this must be taken into account or you will have an unbalanced system that will require several ounces of pressure to overcome.

With the proper correction for the friction of the fittings the following table may be considered as a standard for a friction run of piping not over one hundred ft. in length.

Size of Pipe	Feet in Length			
	25	50	75	100
2 -inch	850 Sq. Ft.	600 Sq. Ft.	475 Sq. Ft.	425 Sq. Ft.
2½-inch	1,400	1,000	850	725
3 -inch	2,650	1,850	1,525	1,300
3½-inch	3,800	2,700	2,200	1,900
4 -inch	5,275	3,700	3,025	2,625
4½-inch	7,100	5,000	4,100	3,500

Conditions under which a job is obliged to perform would very likely change the above when the entire draft upon the boiler was taken into consideration. Under some conditions it might be thought desirable to provide for more or less drop in pressure for the entire circuit than about two ounces. This change either way might make some change in the maximum amount that could safely be put upon the main.

The type of pipe covering, or if without covering, would make some difference. The figures are given simply as a fairly safe size when not more than about two ounces drop in pressure from boiler to end of circuit will serve.

The question of air line size offers rather a difficult subject to make any positive set of pipe sizes applicable to all vapor systems.

Perhaps it will be safe to give the following list as an average of the different systems where the water of condensation and the air are to run in the same pipe.

Total radiation including piping loss, for seventy degrees temperature in the rooms, zero outside.

Sq. Ft.	Air Line
200	¾-inch
400	1 -inch
800	1¼-inch
1,500	1½-inch
3,000	2 -inch

Because the word vacuum is used in connection with vapor systems, do not assume that any unusual care is to be taken, or extra time spent in creating something tighter than an ordinary hot water system, for that is not a fact.

Give your fitter clear-cutting pipe cutters and threading tools that will cut a clean thread, insist upon the male thread only to receive the lead, or whatever dope you consider it necessary that he should use. Pull the joints as tight as you would for any steam or hot water job and you need not fuss about the vacuum part. If the job does not leak steam when tested, as it must be to clean the boiler, it will be tight enough to hold any vacuum that will be naturally created under the running pressure required. It is very seldom that any of the vapor or vacuum-pressure vapor systems are required to develop over one pound pressure above atmosphere, or drop to an absolute pressure of less than eight pounds, or possibly ten inches on the vacuum gauge.

A Word of Advice

In closing, I can only repeat again that whatever vapor system you select as your standby, let the promoter of the system lay out your work for you, at first anyway. He knows more about it than you possibly can, and, more than that, it pays to have a first-class engineer as a silent partner. And do not imagine that you can start right out and create a satisfactory vapor system by picking up here and there equipment advertised as certain to provide all that is required to make a vapor job. A good vapor job must be carefully, very carefully, equalized to secure results with one or two ounces or less of pressure at the boiler.

FINIS.

BLACKBOARD EPIGRAMS

DO the people of your town know you are there, or do you just think they do? If you're in doubt, try the epigram system. Try it for a month, and by the end of the fourth week you will know they know you are there. And, more than that, you will keep on using the epigrams. Both you and the people will have the habit.

The epigram system is simple. A blackboard about four feet long and three feet wide out in front of your place of business. Then, each morning with a piece of chalk write one epigram. People will stop, read, pass on and think of you and your business. That's all. Easy but effective.

Here are printed every week seven epigrams—one for each day. Use them. Don't let them go to waste:

When you bite off more than you can chew—chew it.

* * *

Poker is a fine game, but not much of a business.

* * *

Some people will stand for a lot of things they won't fall for.

* * *

Better pay as you go if you expect to go far.

* * *

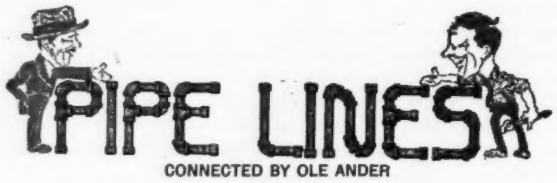
Few women are as fresh as they are painted.

* * *

Even the best of shots miss the mark once in a while.

* * *

1923 will be a great year for those who don't sit on the mourners' bench.



Elbow grease is a wonderful window cleaner.

Among the modern home inconveniences are gas heaters, around which is found no place to spit. D. A. B., Chicago.

"THIS BANE GUDE ONE"

A pipe threader who lived in St. Paul,
Fell into a spring in the Fall.
Had he fell in the Spring
'Twould have been a sad thing,
But he didn't, he fell in the Fall.
S. B. L., St. Paul, Minn.

HE WAS SO IGNORANT

—— he though an Arcola was a phonograph.
R. C. H., Wingate, Ind.

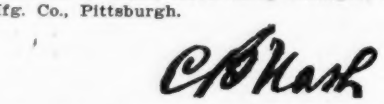
WHO IS BOMBO? DO YOU KNOW?

You have often heard it spoken,
That there's nothin' in a name—
That Cohen or Smith mean naught to you,
In your little Hall of Fame.
But "Bombo" gets some signatures
To decipher and unlink;
He's got to tell just who is what,
From a keen look at the ink.
And so I ask you, my good friends,
Is it not indeed a shame
To stand on our hind legs and shout,
"There's nothin' in a name!"
G. M. D., New York.

HOPE vs. REASON

At the grave of the departed stood the old darky pastor. Looking down at the mound he said solemnly: "Brothah Johnsing, you is gone. An' we hopes you is gone where we 'specks you ain't." B. B., Portland, Ore.

Charles B. Nash, Advertising Manager, Standard Sanitary Mfg. Co., Pittsburgh.



The writer of this signature has what we call "artistic taste." He also has poise and a fair degree of self-assurance. He knows how to pass work on to others and how to get others to do the work he passes to them. BOMBO.

ONE HUNDRED YEARS AGO

The butcher "threw in" a chunk of liver.
Nobody "listened in" on the telephone.
Bathrooms were a novelty.
T. W., Tampa, Fla.

MARK IT "PAID"

A plumber was trying to get a banker to renew his note for the third time. The banker didn't like to do it. Finally he said, "I'll tell you what I'll do. One of my eyes is glass. If you can tell which is my glass eye I'll renew your note."

The plumber looked hard at the banker. "Your right eye is glass," he said.

"Correct," nodded the banker, "but how did you guess it?"

"Why, said the plumber, "the glass eye is more sympathetic than the other one.' P. K. F., Jackson, Mich.

If nothing appears in this column next week you'll know why. I laid off to telephone. OLE ANDER.

Selling Men to Sell Your Goods

Dealers and Contractors: One Advertising Editorial, with a border around it, is printed each week. Use these Editorials in your local newspaper advertising. They will stimulate public interest in plumbing and heating, cause people to appreciate your service to the community, help your business and increase sales without additional expense. Fit one a week into your ads.

IN THE smoking end of a Pullman the other evening four master plumbers and fitters sat chatting the miles away. They were talking shop. What else is a smoker for? The four are successful in a big way. And they are always thinking how they can do more work and make more money.

One of the big four said: "In my town I'll bet there's twenty-five thousand dollars worth of repair jobs and renewal work scattered about. And I could get every dollar of it, too, if I had the time to go after it, or if I had somebody that I could send out."

"Did you ever try selling your men to sell your goods?" asked another of the big four.

"You mean to train and encourage my men to be salesmen?"

"Yes," said the second of the four. "Train and encourage stenographers, journeymen—all of them—to keep their eyes open, and to sell, and to spot jobs, and to do everything they can do."

That was enough. It started a discussion. And out of the discussion grew many points.

We are living in a busy, "on-your-toes" age. To get the most out of a business everybody connected with a business must do his most.

By taking a little time for training, and by paying employes a commission on the sales they make and on the jobs they get, every person connected with an organization can bring in something.

Who is in a better position to make a sale or land a job than a journeyman who goes out to do some repair work? All he has to do is to keep his eyes open. And the best eye-opener in the world is a prospect to earn a few extra dollars.

This thing has been talked in meetings, at conventions—wherever two or more members of the trade gather. Some masters have put the talk into practice, and are cashing in by selling their men to sell their goods and their service.

Let a master turn teacher for an hour each week for a few weeks; let him show his men what they can do and how they can do it. Then let him watch his business grow. Every man who earns a commission will encourage every other man to go and do likewise. And, the first thing the master knows, all of them are doing it.

More intensive selling in the plumbing and heating field is needed. And one of the best ways to speed up sales is to speed up salesmanship.

A Series—No. 61

PUT ON AN OVERCOAT

YOU know this without anybody telling you. Which is that an overcoat does two things. It keeps the heat in and the cold out.

You know that.

But do you know that the boiler, and the pipes which carry the heat from the boiler to the radiators in your home, need an overcoat just as much as you need one?

That's a fact. And for the same reason. An overcoat on your boiler and pipes keeps the heat in and the cold out.

The name of this overcoat is "Insulation." Pipes that are uncovered waste much heat, which means that they waste much coal.

To do without an overcoat is to waste about one-fourth of your fuel. And at present-day prices you can't afford that, can you?

The cost of an overcoat, cut to fit your boiler and pipes, is soon paid for by a reduced coal bill. Cover your boiler and pipes and cut your expenses.

Humanisms for the Public

Associations and Dealers: On this side of this page each week is printed a short, easy-to-read story. Typewrite each one and pass it to your local editor for his reading columns. In time these stories will build a stronger public interest in sanitation, health, convenience and comfort. These stories are the kind of reading matter people read every day in their home newspapers.

SOFT-PEDAL publicity rings loud in the cash register. There's a reason for this. Most general advertising tries to sell the public so hard that the public catches the advertiser at it and backs away. Much of the advertising is too driving. It is because the Advertising Editorials lead instead of drive that they have been so successful.

And now come the "Humanisms," which lead even more quietly and in a more round-about way than the Editorials. The "Humanisms" educate people to want the things they need.

The Pessimist

Some folks talk about the scrub—
Bah!
They take each morn' in their tub—
Bah!
What's the use of being clean?
That don't get me any "green!"
Gets my goat—that's what I mean—
Bah!

Talk of pep and health is bunk—
Bah!
"Can" the Bath a Day—it's junk—
Bah!
Grandad died at eighty-three,
He didn't bathe—no, not he!
What's good for him, 'sgood for me—
Bah!

S'pose I am clogged with dirt?
Bah!
S'pose I wear a dirty shirt?
Bah!
S'pose my store is dirty too?
With windows grey—can't see through;
What's that got to do with you?
Bah!

I don't care what folks believe!
Bah!
I've my idees—get me, Steve?
Bah!
I know things you've forgotten,
Don't tell me—keep a'trottin'.
How's business? Say, it's rotten!
Bah!

Correct Fittings and Pipe in Modern Plumbing

Regulations Governing Soil and Vent Stacks and the Venting of Fixtures

Part V of "Model City Plumbing Code."

By **Frank R. King**

State Plumbing and Domestic Sanitary Engineer, Wisconsin State Board of Health.

(Continued from Page 78 in the January 13th Issue.)

Traps for urinals rising from the floor and those serving shower baths and floor drains may be so located as to make the removable inlet serve as a clean-out.

(c) **Setting of Traps.**—All traps shall rigidly be supported and set true with respect to their water level, and so located as to protect their seals. All that portion of the waste pipe of a P trap extending to the point of venting shall be considered as a part of the trap and the total fall between water level of the trap and vent shall not exceed the inside diameter of the waste pipe (Fig. 21). See also Section 8.

The vertical distance of the fixture inlet pipe measuring from the seal of the trap to the bottom of the sink, basin or similar fixture shall not be less than six inches, nor more than twelve inches.

The horizontal distance from the trap seal to the center of the fixture waste shall not exceed twelve inches, except for bath tubs, shower baths, urinals, or other similar fixtures where the trap must be placed outside of the stall, a greater distance will be permitted.

(d) **Traps—Where Prohibited.**—There shall be no trap at the foot of soil or waste pipe stacks.

(e) **Traps for Rain Water Leaders.**—One trap may serve for one or more rain water leaders, providing no part of said pipe is used for a soil or waste pipe. (Fig. 22.)

When rain water leaders are carried up to the roof of a building they need not be provided with traps, unless such conductors terminate within 12 ft. of any door, window, ventilating hood or air intake.

Rain water leaders connected to the house drain, where no main house trap is installed and those taken off the drain on the street side of the main house trap terminating within 12 ft. of any door, window, ventilating hood or air intake, shall be trapped, and the trap so located that it is properly protected against frost.

(f) **Other Waste Connected to Water Closet Trap Prohibited.**—In no case shall the waste from a bathtub or other fixture be connected with a water closet trap.

(g) **Overflow Connection.**—Overflow pipes from fixtures in each case shall be connected on the inlet side of the trap.

Section 20. **Main House Trap.**—(a) **Inside of Building.**—The house drain shall be provided with a horizontal trap set level and placed immediately inside of the foundation wall where sewer enters the building. This trap must be provided with a hand hole to which a cleanout shall be connected and brought to the surface of the floor. (Fig. 22.)

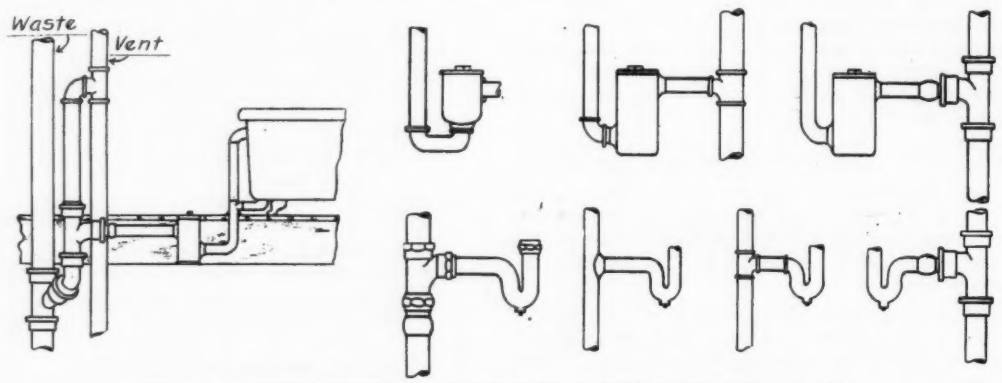


Fig. 21. Showing Typical Traps and Methods of Back Venting (Section 19c).

(b) **Outside of Building.**—In all cases where there is no excavation under a house or building, the main trap to the sewer or house drain may be placed outside of such building, and from the hand hole of same there must be extended a cast iron pipe to the surface of the ground and provided with a cleanout plug.

Where the cleanout of the house trap outside of buildings terminates under concrete sidewalks or pavements, the cleanout shall be of extra heavy cast iron as provided for traps inside of basement.

(c) **Where Not Required.**—The main house trap is not required on storm sewers or drains and may be omitted in all buildings where the roof terminals of soil and vent stacks are favorably located, when plumbing is free from

defects, fixture traps properly protected from syphonage, and the installation made in a durable and sanitary manner, as provided for in this code, as follows:

(1) On the house drains serving public buildings such as schools, churches or auditoriums.

(2) Industrial and office buildings.

(3) Industries conveying soapy or other lather-producing wastes, such as laundries, dye works and similar establishments.

(4) Outlying districts newly sewered as may be directed by the commissioner of public works, the boundary lines of such district shall be filed in the form of a public map with the superintendent of plumbing and house drainage.

(5) With the consent of the owner, in any other building new or existing by special permission in writing from the superintendent of plumbing countersigned by the commissioner of public works.

Note:—Public or private sewerage and drainage systems within the building should be so designed, constructed and maintained as to provide for a free circulation of air or effective ventilation throughout, thus reducing the pernicious effects of sewer gas on the materials to a minimum.

Based upon present day knowledge it would appear that the indiscriminate installation of main house traps is one of the greatest mistakes, if not the greatest, in the development of the high grade modern plumbing system. Therefore, every effort should be made by all interested to accomplish satisfactory correction of this condition. The main house trap may be safely omitted:

(a) From all plumbing installations in new public sewerage systems and from all extensions of existing systems in outlying districts.

(b) From all buildings where roof terminals of soil, waste and vent pipe are located a safe distance from windows, doors, or any source of air intake, etc.

(c) Providing the plumbing and drainage installation within the building is made and maintained in compliance with good plumbing practices.

The chief objections to the main house trap may be briefly noted as follows:

Because it retards the flow of sewage and thus acts as an accessory to house drain stoppages.

Because it serves as one of the principal "sewer gas" producing agents.

Because it is an effective barrier making for the prevention of proper ventilation of both the sewerage and building drainage systems.

Because it adds to the initial and maintenance costs of the installation without giving value in return.

Because its use is not necessary except in some isolated cases.

Because it has been conclusively proven that well ventilated sewerage and drainage systems are practically free from dangerous sewer gas. The main house trap, as the term applies, stops the flow of air in either direction and thus prevents proper ventilation—the first essential requirements of a modern high grade plumbing system.

Therefore its universal use should be prohibited.

(Abstracts from the Wisconsin State Plumbing Code issued by the State Board of Health.)

(d) **Fresh Air Inlets Where Main House Traps are Used.**—When main traps are used they must be provided with a fresh air inlet on the house side of the trap.

(e) **Inside Traps.**—There shall be a fresh air inlet of not less than two inch diameter entering at least two ft. from the water seal of the trap on the house side of the drain. The terminal when exposed shall be covered with a substantial return bend.

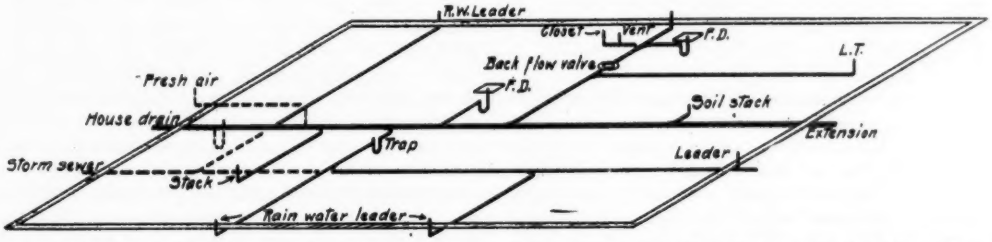


Fig. 22. Outline Plan of a Combination House Drain, Showing Location of Back Flow Valves. Dotted Lines Show Alternatives, Main House Trap, Fresh-Air Inlet and Separate Storm Sewer (Section 19e).

Where practicable all offsets under the floor for extending the fresh air pipe shall be made with the appropriate use of ⅛ or 1/6 bends. The use of ¼ bends or horizontal pipe under the floor should be avoided.

(f) **Outside Traps.**—Where the house trap is located outside of the building the drain or sewer shall be provided with a fresh air inlet entering the same at least two ft. from the house side of the trap, and shall extend not less than six inches above the grade, the upper five ft. to be of cast iron pipe, and terminate with a cast iron return bend, and the lower end thereof shall be connected with the drain pipe "Y" connection with an extra heavy cast iron reducer.

(g) **Location of Fresh Air Terminals.**—No fresh air inlet shall be so placed that an air intake for a furnace or heater may draw air from same; nor shall it be open at a point less than three ft. from any door, window or other air intake.

It is recommended that the fresh air inlet or relief pipe terminate under verandas or porches, provided there is adequate provision made for the free circulation of air.

All exposed fresh air terminals on new work shall be provided with return bends or elbows and the use of caps of any kind is prohibited.

A quarter bend or elbow turned down from horizontal to vertical shall be considered a return bend. All vertical fresh air terminals shall have full return bends.

Section 21. **Back Flow Valves.**—Drain pipes from fixtures shall be provided, where deemed necessary, with adequate back water valves of the balance type when subject to back flow or back water from sewer. Such back water valves shall be so placed as not to interfere with the flow or discharge of any conductor or rain water

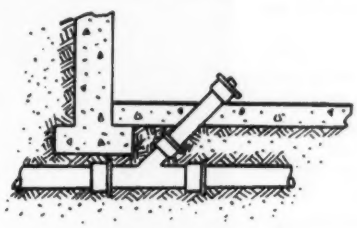


Fig. 23. Illustrating Main House Drain Cleanout Plug (Section 22c).

leader or other fixture and be readily accessible for cleaning, and means for a free circulation of air shall be provided where necessary by an adequate revent pipe or fresh air inlet, as the case may require to avoid a dead end.

A suitable manhole shall be placed above all back flow valves, and when the valve is placed two or more ft. under the surface. The manhole shall not be less than thirty inches in diameter with a concrete bottom and provided with a substantial cover.

Note:—Care should be exercised in the design of the underground piping in house drains subject to back flow. For economy in installation, basement fixtures should be properly located and closely grouped on an independent branch receiving the waste from only such fixtures as are subject to back flow (see Fig. 22).

Section 22. (a) **Cleanouts.**—Where main house traps are installed, a four-inch extra heavy cast iron pipe shall be extended from hand hole of trap to a point above the surface of finished floor or grade and where practicable to a point 2 inches above the floor or grade. In no case shall a cleanout be placed below the surface without a suitable cover.

(b) **Where House Trap is Not Installed.**—Where no main house trap is installed a four-inch cleanout shall be provided on the house drain at a point where it leaves the building and which shall extend either from a Y fitting to a point above the surface of finished floor or grade as prescribed in the following section. (Fig 23.)

(c) **Additional Cleanouts.**—All additional cleanouts for main house drain shall be extended where practicable to a point two inches above the surface of the finished floor or grade, and be of adequate size and so installed as to serve the purpose for which they are intended.

At least one cleanout shall be provided on the horizontal sink or similar waste lines, and in cases where changes in direction occur additional cleanouts shall be installed, all so located that they are accessible and serve the purpose for which they are intended. (See sketches.) All soil and waste stacks, so constructed that stoppages are liable to occur at their base, shall be provided with cleanout plugs or approved testing tee.

Cleanouts should be provided in connection with all urinals at such points that all interior parts of the waste pipe may be reached conveniently with sewer rod or wire.

(d) **Construction of Cleanouts.**—When solid brass screw caps for cleanouts are used, they shall be at least $\frac{1}{4}$ inch in thickness and provided with standard pipe thread and square or hexagonal solid head at least $\frac{3}{4}$ inch high or adequate inverted sockets. The ferrule, when constructed of brass, shall be at least $\frac{1}{4}$ inch in thickness; and when constructed of iron the same weight per ft. as extra heavy cast iron soil pipe. The screw cap shall have at least five threads of iron pipe size. The tops of cleanout plugs shall be tool faced to a flawless smooth surface so as to insure a tight joint.

(e) **Diameter of Cleanouts.**—The minimum size of cleanouts in house drains shall be four inches. All other cleanouts shall be of adequate size and located in such a manner as to serve the purpose for which they were intended.

Mail Order Competition

Plumbing and Heating Firms Are Meeting It and Beating It

THE large mail order houses have cut into plumbing and heating sales, of course, just as they have cut into other kinds of sales. This has caused much grumbling. But there is only one way to beat the game of mail order houses. And that is to do business as they do it, but do it better.

Several plumbing and heating firms are, in their several communities, beating the mail order houses by doing a mail order business of their own.

One such firm that has, perhaps, gone farther and done more than any other is the Pettit-Galloway Co., of Little Rock, Ark. This company does a regular plumbing and heating contracting business throughout Arkansas and northern Louisiana. Covering such a wide field, and being well and favorably known, made it easy for this company to meet mail order competition.

The Pettit-Galloway Co. has issued an illustrated catalogue of eighty pages and cover. Only recognized brands are listed and carried. The catalogue is mailed to a large mailing list and is also distributed by salesmen and other employes.

The Showroom of the Pettit-Galloway Co. at Little Rock, Ark.

It must be understood that the Pettit-Galloway Co. is in no sense a jobbing firm. It does not sell to dealers, but to consumers. It sells fixtures, parts, accessories—anything to any home owner or builder who wants to buy. The buyer can make his own installations, if he can, or can hire his local plumber to do the installing, or he can call upon the Pettit-Galloway Co. to do the work.

In other words, this company is selling better goods than are sold by mail order houses, and at prices that meet their competition. Furthermore, the public is being educated to buy at home instead of buying in a more or less uncertain foreign market.

If every dealer would go about educating his public he would soon make it hard for the mail order houses to do much plumbing and heating business in his community.

After all is said and done, any firm can meet any competition and get business if it goes about it properly.

QUESTIONS & ANSWERS

This department is a clearing house for ideas and is open to every reader of "Domestic Engineering." Problems sent in are replied to at the earliest possible moment by "Domestic Engineering" and this department can be made more valuable if readers themselves will help the man who needs assistance. Read the questions and answers. If you have had similar problems, or know from experience how the faults can be remedied, do not hesitate to send in your comment or criticism. It will be some satisfaction to you to know that you have helped a fellow craftsman and a pleasure for us to pass on the data. "Every man owes some of his time to the upbuilding of the profession to which he belongs."

WASTE WATER FROM MILK CANS CLOGS SEPTIC TANKS

Editor, "Domestic Engineering":—I would like to ask you for your opinion on the following subject: I have a customer who has a septic tank constructed of four 16-inch tile pipes. In the first compartment there are two of the tile pipes, one on top of the other. The other two compartments are of single length tile. This tank was installed two years ago and the owner told me last fall that he had trouble because of the waste pipe stopping up. I went out and found that the septic tank was filled up, and it appeared to be solid all the way to the bottom. It was enclosed so as to be air tight, with Portland cement. The outlet was clear, and it seems that the sewage would stay in the tank without any septic action at all. The tank is used only for the waste from the sink and from a vat in which milk cans and pails are washed. No other fixtures are connected to it. Is there any way that you know of, to take care of this sewage which hardens in the tank and is not acted on by the bacteria in the tank? The condition is evidently caused by the grease from the milk pails and cans. I will thank you for any information you can give me.

Minnesota. M. J. C.

We are sorry you did not enclose a sketch of the septic tank along with your letter. Perhaps it would have enabled us to locate your trouble better. As we understand your description the septic tank is something like Fig. 1 herewith. The stoppage is between A and B.

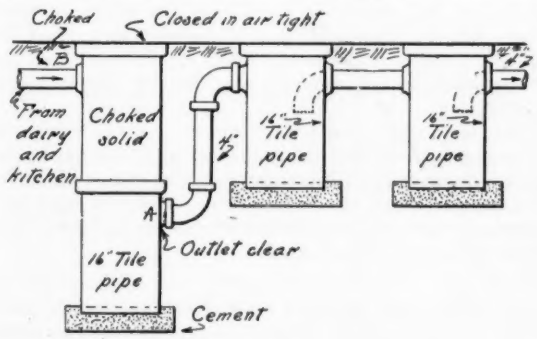


Fig. 1.

This would indicate congealed grease, probably augmented with milk bacteria, which seem to propagate in the tank and thicken the liquid as milk will thicken when it stands long in a bottle.

Evidently the right kind of bacteria are not in the tank. It probably would improve matters greatly if a water closet discharged into the tank along with the present sewage. You might suggest to the owner the advisability of putting in a water closet, or complete bathroom outfit, if such is possible. Otherwise we fear he will be troubled with occasional stoppage of this tank.

If he cannot do that, then we believe it would be a good plan to build a preliminary tank with larger contents and greater diameter, perhaps as shown in Fig. 2. Just cut into the present line which runs from dairy to tank and insert this new tank. The nearer the dairy the better. This tank is 3 ft. wide by 3 ft. long by 3 ft. deep. It should not fill up within 10 or 20 years.

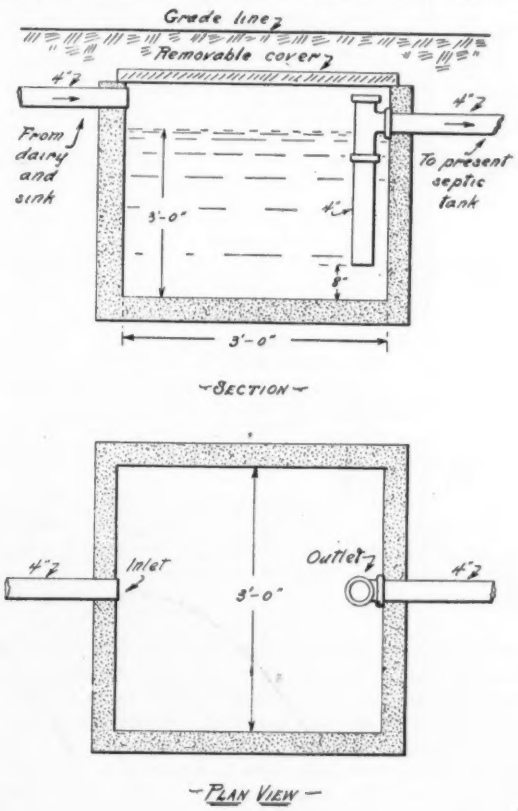


Fig. 2.

It's discharge should be so free from milk and grease that the old tank should run 10 to 20 years also.

We think it would be a good idea to run periodically a large quantity of hot water and lye through the entire apparatus, pouring it in at the dairy and sinks. This may be done perhaps once a year. But it should be done thoroughly.

INFORMATION ABOUT A ONE-PIPE STEAM HEATING SYSTEM

Editor, "Domestic Engineering":—The accompanying sketch shows a one-pipe steam job that I am to install. I would like to know if a 2-inch wet return is O. K. at drop

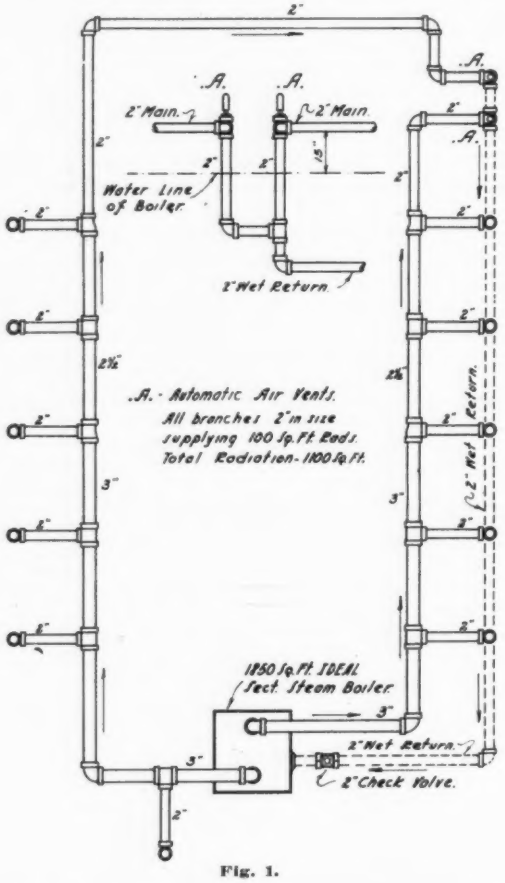


Fig. 1.

end, 15 inches above water line, the ends of the mains being equipped with vacuum vent valves.

Kansas. J. P. M.

Correspondent should be able to install this job in such a manner that it will give good service. In erecting the piping system the utmost care should be exercised to install the work and to size the pipe so that steam can be circulated with little or no friction. Friction in the mains, and the consequent reduction in pressure at the end of each main, will increase the height of the water in the return drops at the end; therefore, all friction should be eliminated so far as is possible.

Fig. 1 illustrates the sketch submitted. As will be noted, each main is connected directly from a single steam outlet at the boiler. While the size or number of the boiler outlets are not mentioned, we believe the boiler named has three 4-inch outlets, all of which should be used.

A steam header should be constructed across the boiler. This header should have an area somewhat greater than the combined area of the two 3-inch mains. An area 25 per cent greater is not too much for good work. The area of a 3-inch pipe is 7.39 sq. inches; $7.39 \times 2 = 14.78$, and $14.78 + 25$ per cent $= 18.47$. The nearest size of pipe having an area of 18.47 sq. inches is 5 inches; therefore, the header should be 5 inches in size. One 3-inch main can be connected from the front end of the header and the other from a tee placed at some convenient point on the header. From the rear end of the 5-inch header a 2½-inch equilizing pipe should be connected to the return; or, better, from the 5-inch steam header to a 2½-inch return header.

We illustrate by Fig. 2 the method of connecting the header and other piping as suggested. All 4-inch connec-

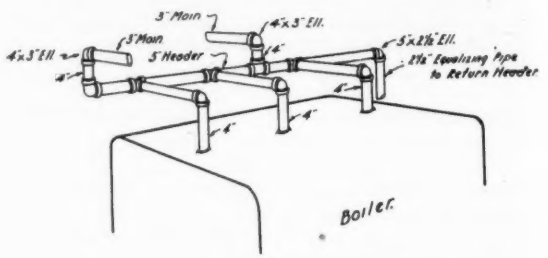


Fig. 2.

tions can be made with 4-inch nipples, paired as to length, and the header can be made up and attached to the boiler by flanges on the 4-inch uprights out of the boiler.

The element of friction has been eliminated from the boiler connections as much as is possible and the next point to consider is the size of the mains. Two 3-inch mains, as illustrated, are sufficient to supply the radiation connected. These mains should be continued full size to the end, as their area is being reduced constantly by the condensation from the radiators dripping into them. Note by Fig. 3 a cross section illustration of two mains. A

Fig. 3.

illustrates the main at a point near the boiler, carrying steam but no condensation. B shows a section of the main, after the condensation from several radiators has dripped into it, consequently reducing the effective area of the pipe.

The method of connecting the returns, as shown by correspondent's sketch, is good; also the size of pipe used. With a distance of 15 inches between the end of the mains and the water line of the boiler the job should work perfectly, provided the suggestions offered are followed when constructing the piping system.

An Atlanta, Ga., girl, the envy of half the female population of that state, says that it is the shower that makes her beautiful. Whenever there is a rainstorm she dons a slicker and stands outdoors, with her face upturned to the storm. But, then, you can't have a storm every day, and some people like to be beautiful all over instead of just in the face, for they know that a beautiful complexion means health. Doubtless the idea will dawn on the Atlanta girl some day that there is such a thing in the world as a shower bath, and that she does not have to wait for a rainstorm to keep on being beautiful.

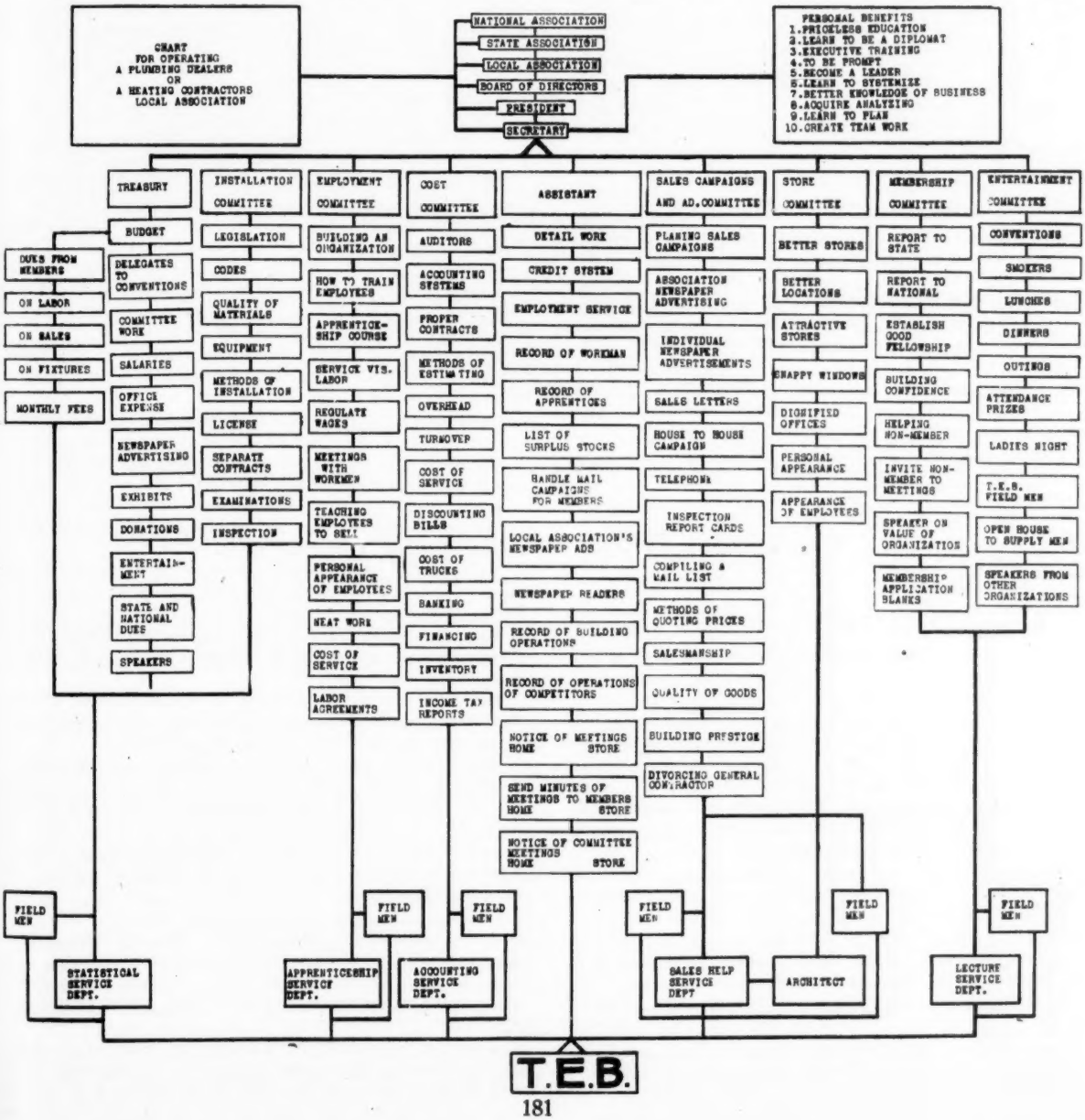
How to Operate An Association

Whether the Association Be Large or Small, in Order to Be An Organization of Real Value to Its Members, Every One of the Departments or Functions Which Are Indicated in This Chart Must Absolutely Be Cared For

H. E. Jones, of the National Trade Extension Bureau, speaking at the Secretaries' Conference at Evansville, Ind., January 10, on the plan for operating an association and the chart which illustrated its various functions, said:

"There is an idea prevalent that this chart, which graphically presents the organization and the plan of operation for a successful local association, may create in the minds of some of you a wrong impression, unless considered in the light which I shall suggest.

"In looking at this chart, without knowledge of its proper purpose, there might be excuse for a representative of one of the smaller organizations saying, 'Oh! that's all right for a great big association, but for a small bunch like ours, that's altogether too complicated.' So the thought that I want to get before your minds, in connection with this chart is this: Whether your association be large or small, in order to be an organization of real value to its members, every one of the departments or functions



which are indicated by this chart absolutely must be cared for.

"In the larger organizations, it goes without saying that the parent body will be divided into subordinate organizations or bodies, in the shape of committees, whose specific duty it will be to care for the activities indicated here in the headings of this chart.

"In organizations not so large, it is perfectly practical, and quite probable, that two or more of these functions shall be combined and assigned to a single committee.

"In a similar manner, in the smallest of associations or groups, all of these activities should be present and properly cared for. This, even though the secretary of the organization, in his own mind and person has to care for them all. It is readily enough seen that in a small association or group of only four or five firms, the volume of work for these activities, all together, might only be sufficient to claim the attention of a single individual, the secretary.

"But even in such cases, all of these functions or activities, as you care to call them, must be present and receive their proper share of attention, if the organization is to serve the purposes for which it is intended. So, even in the small organizations, with only a single working unit to care for the activities of the association, that individual must divide his mind into sections or departments, corresponding to the various committees, as shown in the headings on these charts; and be certain that a proper share of his time and attention is divided to every one of the activities outlined.

"Only by such conscientious attention to these things is it possible for an association to function effectively for the benefit of its members and of the industry."

WHERE THE DELEGATES TO THE SECRETARIES' CONFERENCE AT EVANSVILLE, JANUARY 9, 10 AND 11, CAME FROM

It is interesting to note what parts of the country were represented and what parts were not represented in the conference under the direction of the Trade Extension Bureau at Evansville, January 9 to 11, 1923. A glance at

the accompanying map will give a very good idea of what states were weak and which ones were well represented.

The states represented and number of representatives from each state are as follows:

New York	9	Oklahoma	1
Iowa	2	Colorado	3
Michigan	9	Maryland	2
Missouri	6	Ohio	4
Pennsylvania	9	Massachusetts	1
Wisconsin	5	District of Columbia	1
Texas	5	Washington	1
Illinois	11	North Carolina	1
Minnesota	2	Louisiana	1
Kentucky	2	Tennessee	3
California	3	New Jersey	1
Kansas	1		
Indiana	8	Total	91

January 29, 30 and 31, 1923.—Thirty-first annual convention of the Illinois State Master Plumbers' Association, at Decatur, Ill.

February 6, 7 and 8, 1923.—Annual convention of the Ohio State Master Plumbers' Association, at Cincinnati, Ohio—Headquarters and meeting place—New Gibson Hotel.

February 14, 1923.—Winter meeting of the Eastern Supply Association, at Hotel Astor, New York.

February 21 and 22, 1923.—Winter meeting of the Central Supply Association, at Drake Hotel, Chicago.

February 22 and 23, 1923.—Annual convention of Nebraska Master Plumbers' Association, at Omaha.

February 26, 27 and 28, 1923—Annual convention of the Missouri State Master Plumbers' Association, at the Hotel Statler, St. Louis, Mo.

March 12, 13 and 14, 1923.—Annual convention of Indiana Society of Sanitary Engineers, at Evansville.

March 20 and 21, 1923.—Annual convention of New York State Master Plumbers' Association, in New York City.

March 21, 22 and 23, 1923.—Meeting of the National Association of Brass Manufacturers, at Chicago.

March 26 and 27, 1923.—Annual meeting of the Kansas Master Plumbers' Association, at Hutchison, Kans.

March 29 and 30, 1923.—Annual convention of the Michigan State Master Plumbers' Association, at Saginaw. The headquarters will be at Hotel Bancroft and the meetings will be held in the Auditorium.

April 2 and 3, 1923.—Annual convention of the Tennessee Association of Master Plumbers, at Chattanooga, Tenn.

April 3, 1923.—The annual convention of the Massachusetts State Association of Master Plumbers, at Boston.

April 18 and 19, 1923.—Annual meeting of the National Metal Trades Association, Hotel Astor, New York.

April 26 and 27, 1923.—Annual convention of the Louisiana and Mississippi Associations of Master Plumbers and Heating Dealers, at New Orleans, La.

May 1 and 2, 1923.—Annual convention of the Colorado State Master Plumbers' Association, either at Denver or Colorado Springs.

May 8 and 9, 1923.—Annual convention of the Pennsylvania State Association of Master Plumbers, at Johnstown, Pa.

May 14, 15 and 16, 1923.—The annual meeting of the National Pipe and Supplies Association, in Cincinnati, Ohio, with headquarters at the Gibson Hotel.

May 23-26, 1923.—Annual Convention of the National Heating and Piping Contractors' Association, at Chicago.

June 25, 1923.—Annual convention of the New Jersey State Master Plumbers' Association, at Atlantic City.

June 26, 27 and 28, 1923.—Forty-first annual convention of the National Association of Master Plumbers, at Atlantic City, N. J.

A. B. Hunt & Co., Williamsport, Pa., are installing a heating system in the new McCormick garage.

L. E. Estrade, of New Orleans, La., has moved from 7336 Washington Avenue to 3637-3639 South Carrollton Avenue.

James A. Riley has joined Louis Browning, of 31 High Street, Boston, Mass., and hereafter the plumbing firm will do business under the name of Browning & Riley.

The First Meeting of the Wisconsin State Association of Master Plumbers, Held in Green Bay, Wis., in 1894.

President Jos. Brah, Milwaukee; Col. Wm. G. Archer; and National President John S. Irvine, Detroit.

Wisconsin Master Plumbers in Convention

Apprenticeship Problem, Cooperative Advertising and Other Vital Questions Discussed at 29th Annual Meeting in Green Bay, Wis. President John S. Irvine Attends

THE adoption of a resolution that may soon mean the engagement of a paid secretary by the Master Plumbers' Association of Wisconsin was one of the most important acts of that body at its convention, held in Green Bay, Wis., on January 16th and 17th.

This and the apprenticeship situation held most of the attention of the delegates at the four sessions of the convention. Indeed, the first word relating to the subject was spoken by Mayor Wenzel Weisner of Green Bay, who, in his welcoming address, spoke of the necessity for the exchange of ideas. "The plumbers must so perfect their organization," he said, "that they can sell themselves in every community as performers of a service as well as sellers of material."

W. F. Kerwin, secretary of the Green Bay Association of Commerce, also advised the spreading of propaganda so that the necessity for more and better plumbing would be placed before the public, and he suggested for the immediate consideration of the trade the problem of establishing more public comfort stations along the state highways.

Committees Appointed

In both of these addresses there was a welcome absence of the flowery oratory that is usually expected, and the delegates immediately got down to business with the appointment of the following committees:

Resolutions: F. C. Kuetemeyer, R. J. Morrill, J. W. Murphy, Earl Skogg and S. V. Hanley. Auditing: Harry Morris, John McCoy and Hugo Lippert. Memorial: Frank Hartle, F. E. Grebe, A. F. Schoenoff. Nominating: Ed Grassler, P. F. DeLonge and K. Junge. Membership: Max Fish, Ed Garot and J. Wittig. George F. Reeke served as the Press Committee. Sergeant-at-Arms, Walter Dusold.

Due to the promptness with which the opening formali-

ties had been done, there was plenty of time at the morning session for further business, and George F. Reeke, of Green Bay, therefore took the opportunity to open the discussion of the advisability of employing a state secretary. From material gathered at the recent secretaries' conference in Evansville he outlined briefly what the expenditure would be.

Consider Employment of State Secretary

"Your elected officers are glad and willing to serve you," he said. "But their time is limited and they cannot sacrifice their own business entirely to travel around the state lining up new members and ironing out difficulties."

One of the foremost leaders in urging action on this important question was J. B. Sullivan, of Stevens Point. "Ten years ago," he said, "we had 350 members, and we were talking about going out and increasing the membership. Yet we still have only about 350 members today."

"Year in and year out," said E. J. Sullivan, of Kenosha, "the same old bunch of war horses have been doing all the work. Twelve years ago we started a movement for a paid secretary to organize the state, and here we are still debating the question."

It was noticeable that the members from Milwaukee were less enthusiastic on the subject than were those from other cities in the state, President Joseph Brah saying that, while he thought it was a good idea, the cost would probably be prohibitive.

Frank R. King's Report on "The State Plumbing Law"

State Plumbing Inspector Frank R. King, in his report on "The State Plumbing Law; How It Benefits the Public and the Plumber," brought out some very significant figures on the number of master plumbers in the state, in comparison with the number of journeymen. There are now 911 master plumbers' licenses in force, and only 1,186 journeymen. The number of masters who failed to renew their licenses in the past eight years was only 261, while in the same period 611 journeymen dropped out.

Mr. King's figures brought out the fact that there are about 1,000 plumbing establishments in the state of Wisconsin, every one of which represents a possibility for membership in the State Association, if properly approached. "There are not over thirty master plumbers in the state," he said, "who are not following the business."

Other arguments that came up in later meetings were all taken by the proponents of a paid secretary as directly proving their contentions. For example, the report on membership showed that there had been a net gain of but eight new members during the entire year.

President Brah's Report

President Brah in his report told of the many trips he had been obliged to take to smooth out difficulties in various places and to attempt to increase the membership. It was obvious that this work had taken a great deal of time that could have been spent on his own business. President Brah heartily endorsed the plan to go after new members, although he did not feel that a paid state secretary would be the solution of the problem of increased membership.

The matter was finally disposed of with a motion by E. J. Sullivan to the effect that one man be appointed from each locality to take the matter up with their local associations and report on their attitude at an early date.

Even with the matter settled in this manner, however, it came up again when J. B. Sullivan, in the last meeting of the convention, arose and demanded "real action" on the matter.

S. V. Hanley, of Milwaukee, in a somewhat lengthy speech, declared, "We do not need a secretary for the state of Wisconsin."

E. J. Sullivan also backed the idea of obtaining action, and a motion was passed charging the incoming executive committee with the responsibility of making a survey of the state to see what the engagement of a paid secretary would cost. The matter rested there at the close of the meeting. But the members, who have been closely identified with the movement for a paid secretary, are confident that results will be forthcoming as soon as the executive committee's survey is completed.

The Apprenticeship Question

The first reappearance of the apprenticeship question was at the conclusion of the reading of Inspector King's paper. A few of the figures he mentioned, in regard to the number of examinations conducted during the year, started the discussion.

During the past year the State Board of Health has held three examinations, at which 51 master plumbers and only 41 journeymen have passed. While it was pointed out that the number passing the journeyman's examinations in the past eight years exceeds those that have passed the master plumbers, a much larger number of journeymen have dropped out of the trade.

There are in the state of Wisconsin today only 75 indentured apprentices. To this may be added 100 helpers who are learning the business, making a total of 175 possible future plumbers, compared with a grand total of over 2,000 journeymen and masters now in the business.

Much was said on the question, a few of the delegates blaming the Wisconsin Apprenticeship Law for the present situation, but Mr. King pointed out that, "it cannot be the law, as the situation is just the same in states that have other laws, or no laws at all on the subject."

President Brah in his report recommended very strongly that something be done on the shortage of apprentices and journeymen. At the Wednesday morning meeting Carl Rothe, deputy of the Industrial Commission of Wisconsin, took the floor to speak on the state apprenticeship law and to give certain explanations.

Commenting on the fact that it is said that the industrial schools do not teach the proper subjects, he said: "If the plumbers will get together and tell the schools what they want taught, the schools will be glad to change their courses to suit them."

Wm. E. Goodman Leading the Procession from the Convention Hall.

Several objections to the present law were voiced from the floor. Among them was one that $6 a week was too much to pay an indentured apprentice. Mr. Rothe contended that it was not enough, pointing out that the average wage paid to apprentices in all of the building trades is 22 cents per hour.

Agreeing that it would be necessary to solve the problem of future mechanics, Mr. King, said, however, "The solution of the present day shortage lies in getting back into the trade the men who have learned it and then

dropped out. Only one apprentice out of seven finishes his apprenticeship, and only one out of eight finishes and then works at the trade. Plan your work so that you can keep these men on your payroll all the year round, and they will stay in the trade."

Training apprentices is largely a personal matter after all, according to Hugo Lippert, president of the Milwaukee association, who said: "The fault lies with us. We must teach the boys the trade ourselves. We must teach

Milwaukee Delegates at the Convention.

them to handle the tools, take a personal interest in them and not expect them to learn to be plumbers by digging ditches or sweeping floors."

The only action taken on the matter was the passing of a motion put by J. Schuh, of Milwaukee. It was moved and passed that the secretary be instructed to write a letter to every master plumber in the state association, pointing out to him his duty to have at least one apprentice in his shop.

The Unemployment Bill

A topic of considerable heated discussion was the proposed Heuber Unemployment Bill that is to be presented to the state legislature. This bill provides that any worker who is laid off through no fault of his own shall be paid at the rate of $1.10 a day for such period as he shall be unemployed. He need not take a job that is paying a lower wage than the regular scale in his particular line, and he need not go into a district that is having labor trouble, in order to obtain work.

The compensation is to be furnished through a graduated premium to be paid by the employers. Some sort of scheme is to be devised that will provide for a heavier tax on employers who have the biggest labor turnover.

It was moved and passed that a copy of the law be sent to all members for their consideration before any action be taken.

Co-operative Advertising

Co-operative advertising was slated for consideration on the program of events, but the discussion on this point was very brief. L. R. Friend, of Milwaukee, advocated national work along this line, pointing out how the florists and jewelers have managed to put across their slogans. He suggested that a slogan be sought, and that it might be possible to hold a competition, offering a prize for the best slogan that might be used in national propaganda.

George F. Reeke advocated co-operative local advertising, with every association taking upon itself the responsibility for selling the business to its own district. Since, at the present time, there is more plumbing to be done than there are plumbers to do it, it was decided to allow the question to rest, as before, with the local associations.

President Irvine on The National Association

One of the outstanding features of the two days was National President John S. Irvine's address on Tuesday afternoon. The Wisconsin members greeted his arrival on the platform with wholehearted enthusiasm, everyone rising amid prolonged applause.

"I consider myself just an employe of the National Association," said President Irvine, and he proceeded to give a brief account of his stewardship to date in the national executive chair. The association has been put on a more businesslike basis than ever before. A new system of bookkeeping has been installed. The president and secretary have regular office hours. The directory data is being kept up to date, so that it can be off the press within sixty days of the opening of the next president's term.

Urging greater support from the state secretaries, he spoke of the almost impossible task it has been to get replies from secretaries of local associations. He urged that the regular attendants at the associations devote more time to getting the "other fellow" out, and less time to discussing his faults during his absence. "Make the meetings more interesting," was his plea. "Give every man something to do, especially the new members, so that they will be able to get the association idea from the very start."

"Our big job this year is to get after the government and have it let its work to the subcontractors, instead of including it in the general contract, as is now being done. We have committees at work on this now, and they are making excellent progress."

President Irvine is enthusiastic over his job and, as he said in closing, "I am a horse for work, and I just want to feel that after I have gotten through I have accomplished something."

Col. Archer Advocates Stronger Associations

"Baseball has its Landis, the movies have Will Hays, and, thank God, the plumbing business has Bill Woolley!" said Col. W. G. Archer in one of his characteristic opening phrases.

The speaker warmed up to his subject in true Chautauqua style, removed his coat and got right down to business with his audience. He plead for greater support of the National Trade Extension Bureau, then urged the master plumbers to avail themselves of the support the bureau had to offer them.

"The plumber is the outlet for the manufacturer and jobber," he said, "and they recognize that, no matter how perfect their organizations may be in producing, they cannot go on without the proper distribution. That is why manufacturers and jobbers and plumbers are all co-operating in the work of the National Trade Extension Bureau."

Closing an hour of brilliant oratory that held the audience spellbound, he asked: "Why do I tell you all these things? Because I want to sell you to your own jobs. And unless a man is absolutely sold on his job he can never hope to be 100 per cent efficient."

Col. Archer's whirlwind finish won him a tornado of applause, and for the remainder of the convention his talk and the ideas that he had advanced were leading topics of discussion.

Reports Prove Encouraging

The reports of the various committees that were received during the meeting were unanimously optimistic in tone, and showed that the association as well as the individual members had enjoyed a successful year.

Inspector King outlined briefly the results obtained by the State Plumbing Law, in its eight years of enforcement. Improved sanitation, improved methods of sewage disposal, decrease in the death rate from typhoid, improved public comfort facilities and standardization of plumbing design, were among the outstanding benefits mentioned.

Secretary Chas. Pelunek's report showed a gross gain

of 38 new members, compared with a loss of 30, which resulted in a net gain of 8. This was swelled to 13 by the election of 5 new members during the meeting. Treasurer E. F. Henoch reported the balance on hand, January, 1923, to be $2,700, as compared with $1,000 in January, 1922.

The report of the credentials committee, E. J. Sullivan, chairman, showed the attendance to be 129, although there were more delegates present than that number would indicate, as some came late and failed to get in touch with the credentials committee.

L. E. Speer, of the Humphrey Company, Kalamazoo, Mich., spoke briefly on the advantage of the plumber co-operating with the gas companies in the sale of water heaters. Pointing out that the water heater field is a highly profitable one, he said: "Although there are eight million homes in the United States, there are only 1,250,000 gas water heaters of any kind installed in them. Thus a large field is awaiting the plumbers if they will only exploit it."

Re-elect all Officers

The last order of business was the election of officers. It was suggested that, as there is unfinished work hanging over from last year, it would be advisable to have the same officers in charge for another term. All were elected unanimously. They are: Jos. Brah, president; J. J. Newman, vice-president; Chas. Pelunek, secretary; E. F. Henoch, treasurer, and J. B. Sullivan, director.

"Sy" Martin, Owensboro, Ky., and E. H. Platz, Dayton, O.

J. H. Owens, Racine, Wis., and Eugene Morse, Eau Claire, Wis.

Edw. Garot and W. T. Ackrill, both of Green Bay, Wis.

Wednesday Night's Festivities

The social event of the meeting was a banquet in the Beaumont Hotel on Wednesday night. The committee on arrangements had modestly named it a smoker. It was a smoker and everything else.

George F. Reeke, acting as toastmaster, handled the reins so skillfully that the entire evening passed as if the hours were minutes. There was a speech in which Col. Archer came into his own as a story-teller. Judge Henry Grass talked about the political situation in the state, commenting on the important position the plumbers occupy in the world of public affairs. And the entertainers did the rest. There was local talent and imported talent, and nobody wanted to leave when the last song had been sung. They all voted Green Bay 100 proof as to hospitality.

Salesmen in Attendance

Among the salesmen and manufacturers' representatives in attendance were:

E. W. Bareuther, of the Kenney-Cutting Products Corporation, New York City.

L. B. Hadley, of the Nokol Company of Milwaukee.

A. T. Lueckenbach, of the Sanitary Appliance Company, Neenah, Wis.

H. A. McFarland, of the American Radiator Co., Buffalo, N. Y.

Fred P. Werner, of the Wisconsin Plumbing and Heating Supply Co., Milwaukee.

Arthur Krueger, of The John Douglas Co., Cincinnati, Ohio.

E. H. Schaefer and Frank A. Markee, of the Duro Pump & Mfg. Co., Dayton, Ohio.

L. E. Speer, of the Humphrey Company, Kalamazoo, Mich.

E. H. Platz, of the Duriron Company, Dayton, Ohio.

"Sy" Martin, of H. P. Martin & Sons, Owensboro, Ky.

And We Also Noticed

"Grandpa" Goodman, always on time, and always in the front row.

Mayor Wiesner's advice, "Go as far as you like," was taken literally.

George Reeke has the happy faculty of setting a tangled situation right in a few words.

An unbeatable combination of good fellowship and hospitality—the Wisconsin plumbers and the Green Bay local.

Duriron Company and Duro Pump Company movies were enjoyed immensely. A novel way to put across a valuable message.

Working or playing, everybody enjoyed every minute.

BUDGET FOR AN ASSOCIATION WHOSE MEMBERSHIP NUMBERS 25 IN A CITY OF 50,000 POPULATION

Submitted by the Trade Extension Bureau at the Secretaries' Conference, Evansville, Ind., January 9, 10, 11

To provide for delegates, State, National Conventions, and other Conferences	$ 850.00
To provide for Committee Work	200.00
To provide for Salaries, Secretary, Assistant	3,000.00
To provide for Salary of Auditor	3,000.00
To provide for Office Expenses	1,000.00
To provide for Association Newspaper Advertising, Campaigns	2,500.00
To provide for Exhibits at Expositions or Fairs	250.00
To provide for Donations	500.00
To provide for Entertainments	300.00
To provide for State and National Dues	500.00
To provide for Speakers	400.00
Total Budget	$12,500.00

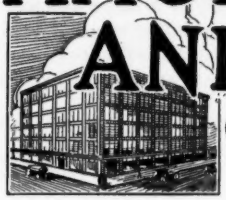
Note.—This Budget can be raised by an assessment of 2 per cent of gross sales, estimating gross sales to average $25,000 each for a membership of 25 would raise $12,500.

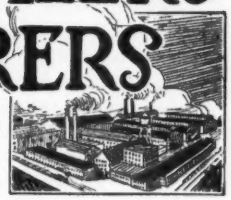
It is, of course, understood that this is way beyond usual proportionate figures; but that's one of the reasons why the plumbing and heating industries combined are lagging millions of dollars behind a normal adequate volume of sales.

The above is an outline, only, and should be worked out to fit local conditions regarding changes of detail.

American railroads are gradually eating their way into the remote parts of roadless China. After they became used to the "choo choo" they were perplexed by the glass windows in the coaches, having never seen anything but oiled rice paper used for windows before. Not all Chinamen are poor, and one wealthy Chinaman, who poked his head through the glass of a railway coach and scratched his ears, ordered his house equipped with modern American window sashes last week. Next week he will want plumbing.

AMONG THE WHOLESALERS AND MANUFACTURERS





OMAHA BRANCH IN NEW LOCATION

The branch of the Johns-Manville, Inc., of New York City, at Omaha, Neb., has been moved from 1409 Farnam Street to 413 South Tenth Street, additional space being needed for the increasing business.

STEELE & JOHNSON MANUFACTURING CO. INCREASES CAPITALIZATION

The Steele & Johnson Manufacturing Co., of Waterbury, Conn., with branches in Chicago and New York, has recently increased its capital stock from $150,000 to $300,000.

NEW SUPPLY HOUSE IN UNION HILL, N. J.

The Hudson Plumbing Supply Co., Inc., of Union Hill, N. J., started business at 261 to 265 Park Avenue in that city on January 19. The company was recently incorporated with a capital of $100,000, to deal in plumbing and heating specialties. Its officers are: I. S. Taylor, president, and Harris Fox, vice-president and secretary.

MATTHEW HOGAN CALLED BY DEATH

Matthew Hogan, president and founder of the Hogan Manufacturing Co., of Hartford, Conn., died at his home in that city on January 17th, in his eighty-fifth year. Mr. Hogan was born in County Tipperary in 1842, and came to this country at the age of eleven. For many years he was in the plumbing business at 760 Main Street, Hartford. He was the inventor of many plumbing specialties, and also organized the Hartford Century Plumbing Co., and the manufacturing company which bears his name.

EIGHTH ANNUAL BANQUET OF PACIFIC SANITARY MFG. CO.

The eighth annual banquet of the Pacific Sanitary Mfg. Co., was held at the States Restaurant in San Francisco on Saturday evening, January 13th. This is a banquet of the officials, heads of departments and salesmen. A splendid preliminary program was given. The particular feature, however, was a well-arranged sketch setting forth some of the high spots of the last year. The first banquet eight years ago brought out but a force of fourteen, but the number this year was increased to thirty-six.

CENTRAL SUPPLY CO.'S ANNUAL SALES CONFERENCE AND BANQUET

The Central Supply Company, of Minneapolis, Minn., recently held its annual sales convention at its main office in that city, when all its representatives had an opportunity to hear several excellent sales talks. A new plan was followed this year in assigning a subject to each of its sales representatives and have him deliver a talk on it. These talks proved very interesting and instructive. Several manufacturers also addressed the conference. Another feature of the meeting was a tour of inspection through the company's plant. At the close of the convention the company tendered the sales staff and department heads a banquet at the Minneapolis Athletic Club.

THE OLD AND NOT THE NEW SIMS PLANT BURNED

Mistakes will happen, and particularly during a fire. So, in reporting the destruction of the plant of the Sims Specialty Mfg. Co., Des Moines, Iowa, on the morning of January 16th, the news was dispatched under trying conditions. It was the old plant, not the new, which was destroyed. The new plant was nearing completion. The company was able to save all of its machinery, and by making extra effort power was turned on in the new plant January 24th and work was again started.

1922 SHATTERS ALL BUILDING RECORDS

$4,500,000,000 Is Year's Mark for Entire Country, Survey Indicates

"The year 1922 broke all records for the volume of construction activity," according to the F. W. Dodge company. "December building contracts in the twenty-seven northeastern states (including about three-fourths of the total construction in the country) amounted to $215,213,000. Although this was 12 per cent less than the November figure, it was 8 per cent greater than that of December, 1921.

"The December figure brought the year's total for these twenty-seven states up to $3,345,950,000 (which would indicate about $4,500,000,000 for the entire country). This was an increase of 42 per cent over 1921.

Analysis of Year's Record

"Analysis of the year's record shows the following important items: Residential buildings to the amount of $1,341,009,000, or 40 per cent of the year's total; public works and utilities, $562,066,000, or 17 per cent; business buildings, $496,145,000, or 15 per cent; industrial buildings, $325,100,000 or 10 per cent, and educational buildings, $303,272,000, or 9 per cent.

"Residential building, the dominant factor of the year's program, increased 53 per cent over the previous year. Contracts in this class called for the construction of over 310,000,000 sq. ft. of new floor space, enough new housing to accommodate nearly 200,000 families.

"The revival has been somewhat uneven as to class and locality. Residential construction and certain other classes that usually accompany it, such as religious and educational buildings, have led the way. The revival has proceeded further in the eastern states than in the middle west. It has been accompanied by rising prices

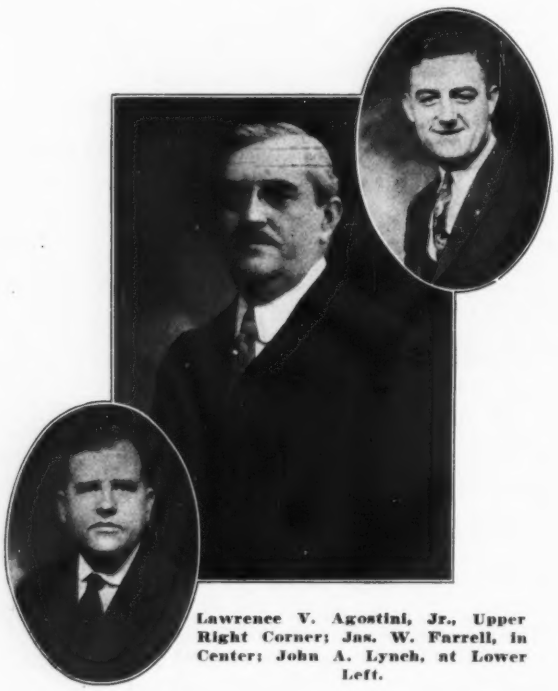
and wages, and by a shortage of facilities to complete the program.

Middle West to Lead

"With the probable increase in general prosperity in 1923 there is likely to be an increased demand for business and industrial buildings. With the demands for money, men, and materials for these classes of structures and for general business and industrial expansion, it is predicted by some that there is likely to be a restriction of the residential construction program. It seems unlikely that increases in industrial and mercantile buildings will make up for the decline that is likely to occur in residential construction. Consequently, although 1923 should be a year of enormous activity compared with years previous to 1922, it does not seem probable that it will exceed, or even equal, the high record year just past. The middle west seems more likely to equal last year's record than the eastern sections."

J. W. FARRELL CO. STARTS IN BUSINESS

The J. W. Farrell Company started in business on Thursday, January 18th, at 1529-1535 Belfield Avenue, Philadelphia, Pa., as dealers in plumbing and heating supplies. The company has a new building with 4,500 sq. ft. of floor space, a large pipe shed, a garage and loading platforms. Its officers, all experienced men in the supply line, are: James W. Farrell, president and treasurer; Lawrence V. Agostini, Jr., vice-president, and John A. Lynch, secretary. Mr. Farrell was connected with the



Lawrence V. Agostini, Jr., Upper Right Corner; Jas. W. Farrell, in Center; John A. Lynch, at Lower Left.

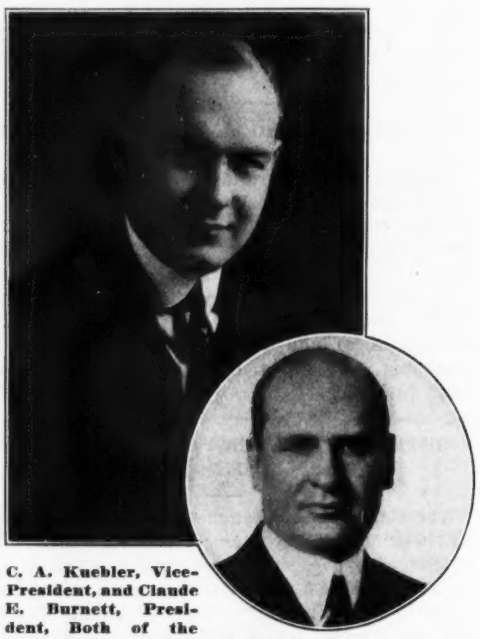
Central Foundry Company for many years, and for six years was vice-president and general manager of Froelich Bros., Inc., Philadelphia. After leaving that company, he entered into business for himself as a manufacturers' agent. Mr. Agostini was with the Haines, Jones & Cadbury Co. for six years, the Fleck Bros. Company for four years, and Tomlinson Co., Inc., all in Philadelphia, for three years. Mr. Lynch was formerly associated with the Tomlinson Co., Inc., as its advertising and sales manager.

DURO SALES CONGRESS A SUCCESS

The sales congress of the Duro Pump & Manufacturing Co., of Dayton, O., which culminated in a blaze of glory on January 8, 9 and 10, and an increase of two hundred and thirty-six per cent in sales, has attracted a great deal of attention. The finals of the contests as released by the Duro people are as follows:

Duro distributors: President MacManus, Vice-President Roberts, Secretary of State Neely, Secretary of Treasury Martin, Secretary of War Goldthwait, Attorney General Pettengill, Postmaster General Miller of New York, Secretary of Navy Klein, Secretary of Interior Lauman, Secretary of Agriculture Hewitt, Secretary of Commerce Burnett, Secretary of Labor Gallagher, Ambassador McAlpine, Senator Scheffel, Senator Scheaffer, Senator Dare, Senator Harris, Senator Malone, Senator Ferree, Senator Markee, Senator Schaefer, Senator Miller, Senator Routsong, C. H. Ivey, W. C. Waite, J. F. Weir, L. L. Hamilton, J. V. Hardy, W. A. Pitts, E. S. Doran, E. M. Seaman, P. D. Whitaker, M. C. Royer, W. H. Gragg.

Duro salesmen: Speaker of the House Blackman, Floor Leader Moreton, Clerk of House Kellogg, Clerk of Committee Wilson, Sergeant-at-Arms Neal, Congressmen Baron, Fisher, Heximer, White, Coleman, Edwards, Christen, Burdett, Yost, Cosman, Ball, Brown, Marks, Cummins, Wenmouth, Perly, Oviatt, Barrows, Stellar, Swan, Klein, Mellett, Dowdell, Congresswoman Addy, Congressmen Patt, Benefiel, Darling, Krug, Zerfoss, Quirk, Wittenbrook, Mendenhall, Quigley, Mendenhall, Booker, Gordon, Schenck, Baxendale, Margot, Morris, Jones, Stanley, Swinehart, White, Heaps, Boatman, Hinson; B. A. Burpee, P. H. Genter, C. H. Bakemeyer, E. W. Ziegenbusch, W. J. Lundstrom, R. E. Sharpe, Charles P. Davis, N. Lanz, E. L. Kistler and W. Buchanan.



C. A. Kuebler, Vice-President, and Claude E. Burnett, President, Both of the Duro Pump & Mfg. Co., Dayton, Ohio.

It was announced at the banquet, which followed the convention, that this company would soon begin the construction of a new five-story concrete and steel factory to cost in the neighborhood of a quarter of a million dollars. This sales congress and the results achieved during this unique sales campaign have attracted much attention in manufacturing circles all over the United States.

BUILDING STATISTICS FOR THE YEAR 1922 AND FOR THE MONTH OF DECEMBER

The Increase in Activities for the Entire Year was 53 Per Cent Over 1921, and for December 67 Per Cent, Breaking All Former Construction Records

Official returns from 194 cities which have submitted building permit figures to The American Contractor during 1922 give a total valuation of $2,549,181,530 for a total of 662,418 building permits issued. This means a 53 per cent increase over statistics for the identical cities during 1921, which in its turn, one year ago, was heralded as breaking all records. The exact figures from these same cities for 1921 are 538,674 permits whose total valuation is $1,663,060,984.

In considering any comparison of the two years, it is necessary to keep in mind the fact that the average of construction costs for this year has been slightly less than that of last year. This year, construction costs have been, roughly speaking, 80 per cent above 1913 costs. Last year they were about 90 per cent above. Consequently the actual gain in figures this year means a still larger gain in actual volume.

A comparison of building permits issued in December, 1922, with those of December, 1921, also makes an exceptionally good showing. In December, 1921, the number of permits was 32,184, with a valuation of $143,453,173; and in December, 1922, the permits numbered 38,845, with a valuation of $232,419,372—an increase of approximately 67 per cent. The reports for these two months follow herewith:

	December, 1922		December, 1921	
	No.	Valuation	No.	Valuation
Alabama—				
Birmingham	306	$ 500,646	300	$ 360,973
Arkansas—				
Fort Smith	47	58,522	48	77,708
Little Rock	139	244,341	124	449,737
California—				
Alameda	51	74,104	37	75,687
Berkeley	112	278,135	130	294,955
Fresno	187	1,261,176	203	500,539
Long Beach	318	851,360	270	1,392,700
Los Angeles	3,613	8,955,597	3,364	9,168,851
Oakland	602	2,070,582	500	2,149,756
Pasadena	298	766,086	209	393,278
Sacramento	159	750,259	224	420,266
San Diego	375	563,276	265	1,775,711
San Francisco	538	2,439,658	568	2,007,705
San Jose	74	170,595	59	121,370
Stockton	60	125,270	67	163,033
Santa Ana	119	296,709	109	272,925
Colorado—				
Colorado Springs	80	96,680	48	44,445
Denver	335	1,309,200	243	713,200
Pueblo	41	295,690	33	34,540
Connecticut—				
New Britain	43	107,492	49	57,416
New Haven	94	1,359,049	92	373,410
District of Columbia—				
Washington	576	5,154,510	552	2,382,617
Florida—				
Jacksonville	222	535,734	271	343,629
Miami	204	280,800	204	657,700
Pensacola	39	12,690	54	60,212
Tampa	171	391,290	237	182,553
Georgia—				
Atlanta	251	1,392,779	236	570,556
Macon	109	46,572	64	38,529
Savannah	28	49,550	56	87,225
Idaho—				
Boise	32	9,460	43	20,389
Illinois—				
Aurora	42	80,640	39	43,430
Chicago	806	34,403,200	543	9,589,750
Decatur	54	246,600	45	113,250
East St. Louis	36	108,300	33	53,430
Evanston	74	810,890	45	467,880
Peoria	71	259,550	68	218,000
Quincy	9	26,900	3	19,500
Rockford	57	107,995	44	102,370
Springfield	88	120,290	146	181,920
Indiana—				
Elkhart	8	19,000	14	338,000
Evansville	66	1,101,910	54	111,777
Gary	25	312,750	26	90,704
Hammond	30	340,250	25	69,850
Indianapolis	610	1,729,503	488	1,863,104
Richmond	32	177,590	31	32,025
South Bend	204	1,144,670	85	97,938
Terre Haute	76	55,750	35	87,742
Iowa—				
Davenport	47	254,470	39	55,935
Des Moines	117	640,050	85	197,780
Dubuque	18	421,330	13	23,900
Mason City	11	18,485	28	13,345
Sioux City	38	106,775	65	213,735
Kansas—				
Kansas City	56	164,175	41	74,250
Leavenworth	9	13,110	8	10,600
Topeka	61	89,665	48	71,595
Wichita	164	214,093	163	324,504
Kentucky—				
Covington	37	77,400	22	16,300
Lexington	46	33,345	58	108,695
Louisville	220	2,097,025	165	569,200
Louisiana—				
New Orleans	186	584,075	165	664,700
Maine—				
Portland	34	74,615	38	68,275
Maryland—				
Baltimore	576	5,919,790	866	1,033,110
Cumberland	23	25,585	13	17,852
Massachusetts—				
Boston	404	2,098,111	423	2,495,557
Brockton	57	359,345	38	112,815
Cambridge	66	281,145	60	192,135
Chelsea	23	41,200	21	27,050
Chicopee	17	54,900	10	14,250
Fall River	62	282,150	42	397,440
Fitchburg	15	22,800	25	23,775
Haverhill	18	49,450	6	25,000
Holyoke	27	203,900	13	30,985
Lawrence	22	141,600	34	183,050
Lynn	50	222,437	25	196,017
Medford	18	51,245	32	109,335
New Bedford	47	404,200	48	243,143
North Adams	6	9,525	3	850
Quincy	58	220,495	62	137,895
Salem	29	39,945	30	30,671
Somerville	18	22,270	24	275,890
Springfield	128	827,100	95	310,235
Waltham	30	84,260	15	37,225
Worcester	99	483,575	81	308,845
Michigan—				
Battle Creek	31	34,900	21	24,470
Bay City	32	799,797	45	17,803
Detroit	1,506	7,064,832	865	3,386,642
Flint	61	21,977	90	289,580
Grand Rapids	198	386,280	151	335,891
Jackson	26	77,545	25	46,785
Kalamazoo	49	77,920	56	215,916
Lansing	97	171,543	81	139,965
Pontiac	27	30,943	34	15,057
Saginaw	61	46,067	54	25,846
Minnesota—				
Duluth	91	1,357,800	87	208,405
Minneapolis	326	1,200,280	373	2,855,005
St. Paul	198	926,827	188	995,218
Mississippi—				
Jackson	48	239,500	76	80,500
Missouri—				
Kansas City	319	1,547,450	281	926,900
St. Joseph	33	173,005	59	46,945
St. Louis	827	2,341,871	546	979,720
Montana—				
Butte	7	2,450	4	3,275
Nebraska—				
Lincoln	31	88,645	48	505,230
Omaha	133	1,834,420	85	3,633,276
New Hampshire—				
Manchester	28	107,325	126	151,390
New Jersey—				
Bayonne	21	179,050	20	155,048
Camden	51	284,295	78	50,400

	December, 1922		December, 1921	
	No.	Valuation	No.	Valuation
East Orange	75	239,220	57	190,792
Elizabeth	63	339,007	57	218,136
Hoboken	6	3,702	13	142,750
Jersey City	84	755,105	112	887,967
Newark	311	2,119,010	232	1,800,175
Orange	43	74,625	40	223,880
Paterson	114	314,853	109	350,043
Trenton	56	141,085	45	184,375
New Mexico—				
Albuquerque	21	30,625	29	326,478
New York—				
Albany	344	584,488	113	328,005
Binghamton	222	193,198	188	197,186
Buffalo	539	2,275,000	354	5,164,000
Mt. Vernon	46	251,405	41	520,980
New York City (Boros):				
Bronx	928	17,927,836	750	9,733,886
Brooklyn	1,291	21,475,364	1,272	11,804,629
Manhattan	554	13,955,441	371	9,704,528
Queens	1,959	13,848,165	1,665	7,673,936
Richmond	188	667,110	306	1,266,865
Niagara Falls	55	1,383,774	25	380,280
Rochester	257	1,425,721	235	1,823,180
Schenectady	40	482,245	25	133,530
Syracuse	146	415,960	123	494,757
Troy	4	19,500	27	440,495
Utica	51	610,129	35	131,150
Yonkers	53	482,600	43	244,500
Watertown	22	30,775	11	17,200
North Carolina—				
Charlotte	33	160,570	33	305,450
Wilmington	18	62,500	15	47,050
North Dakota—				
Fargo	6	29,275	9	83,735
Grand Forks	...	.....	...	.....
Ohio—				
Akron	143	240,076	112	238,655
Canton	95	229,772	78	128,207
Cincinnati	1,246	1,530,090	1,161	3,041,535
Cleveland	653	4,217,150	581	2,305,525
Columbus	271	619,300	208	394,665
Dayton	116	267,726	96	411,526
Hamilton	25	51,635	112	238,655
Mansfield	18	32,875	13	33,500
Sandusky	20	164,960	15	28,110
Springfield	39	44,255	35	20,865
Toledo	181	817,310	162	1,050,081
Youngstown	91	755,500	73	159,555
Zanesville	9	11,362	17	67,990
Oklahoma—				
Muskogee	48	115,870	33	66,785
Oklahoma City	154	462,340	153	379,341
Okmulgee	14	85,150	23	58,450
Tulsa	121	446,215	53	561,050
Oregon—				
Portland	593	808,725	731	854,055
Pennsylvania—				
Allentown	20	126,650	23	31,650
Altoona	67	267,915	32	9,245
Bethlehem	7	12,995	14	37,950
Easton	13	50,980	13	97,325
Erie	88	269,175	80	221,030
Harrisburg	29	145,500	23	170,307
Philadelphia	1,192	7,967,360	882	3,070,455
Pittsburgh	313	2,320,640	338	2,590,855
Reading	16	36,675	14	9,575
Scranton	74	353,300	30	276,372
Wilkes-Barre	40	148,448	34	48,348
York	38	23,476	12	7,000
South Carolina—				
Charleston	15	14,175	24	209,382
South Dakota—				
Sioux Falls	9	107,700	10	46,050
Tennessee—				
Chattanooga	132	338,891	148	233,835
Memphis	242	4,323,614	279	1,245,120
Nashville	115	400,228	199	149,055
Texas—				
Dallas	244	1,184,198	228	597,405
El Paso	70	305,834	87	96,449
Fort Worth	1,181	5,859,024	119	163,968
Galveston	258	74,618	345	178,368
Houston	441	716,113	406	1,103,226
San Antonio	260	535,375	293	453,430
Utah—				
Ogden	25	120,950	20	93,800
Salt Lake City	69	766,950	117	404,595
Virginia—				
Norfolk	86	149,735	60	128,848
Richmond	184	1,954,711	163	969,225
Roanoke	73	136,330	77	87,440
Washington—				
Everett	58	54,012	80	29,410
Seattle	456	1,792,685	518	494,835
Spokane	52	69,270	115	88,225
Tacoma	147	114,253	201	542,297
West Virginia—				
Charleston	60	218,860	51	48,545
Huntington	77	87,670	77	137,335
Wheeling	57	208,720	29	123,015
Wisconsin—				
Kenosha	53	27,692	37	24,387
Madison	164	276,945	23	98,100
Milwaukee	2,354	2,224,963	194	1,785,905
Oshkosh	44	206,488	18	10,590
Sheboygan	96	91,492	52	43,336
Wyoming—				
Cheyenne	11	13,200	18	60,605
Total	38,845	$232,419,372	32,184	$143,453,172

PERSONAL MENTION

L. F. Ostrander, vice-president and sales manager of the O-E Specialty Manufacturing Co., Milwaukee, Wis., recently fell from his automobile to the floor in his garage and fractured two bones in his left arm. He is, however, on the job as usual and will shortly leave on a business trip to New England.

Wm. B. Neal, of Chicago, manager of sales of the Chattanooga, Tenn., operations of the Somerville Iron Works, Somerville, N. J., left Friday for Cuba and Porto Rico in the interest of his concern, to secure representation in the West Indies and So. America.

Wm. B. Neal.

W. T. Pease, formerly New England branch manager of the Ruud Mfg. Co., at Boston, Mass., is now with the Hoffman Heater Company, of Lorain, Ohio, as district manager in charge of this company's Eastern branches.

J. C. Lydon, formerly connected with the American Radiator Co.'s office in Cleveland, O., has entered into business at 907 South Tyron Street, Charlotte, N. C., as sales engineer and manufacturers' agent of heating, ventilating, sanitary and power equipment.

Frank P. Schwinn, formerly in the estimating and quotation department of the F. R. Dengel Mfg. Co., Milwaukee, Wis., has been appointed secretary and office manager of the United Plumbing and Heating Supply Co. in that city.

Charles G. Bodley, manufacturers' representative at Melrose, Mass., is on his regular semi-annual trip to the Middle West in the interest of Beaton & Corbin Mfg. Co. Mr. Bodley reports the largest sales and the most optimistic feeling among jobbers that he has ever known.

Jack Gibson and **Earl St. Bernard,** of Detroit, Mich., have established themselves as manufacturers agents to represent the Hudson Brass Works, Brooklyn; Grady Brass Co., Mansfield, Pa.; Thos. Savill's Sons, Philadelphia, and the Perfect Tank & Seat Co., Syracuse, N. Y.

A. P. Liver has resigned his position as manager of heating sales for the Haines, Jones & Cadbury Co., at Savannah, Ga., to accept a position with the Johns-Manville, Inc., New York City.

Paul Johnson, of the Humphryes Mfg. Co., Mansfield, O., has been appointed assistant sales manager of this company's pump department. Mr. Johnson has been with this concern for several years and has a large acquaintance in the trade.

J. L. Stulsaft, 501 Fifth Avenue, New York City, has been appointed representative in the New York district for the Crown Die & Tool Co., of Chicago.

T. R. Burke.

T. R. Burke, who has been connected with Sloan Valve Co., of Chicago, for some time, has recently been transferred to this concern's sales force at 101 Park Avenue, New York City, increasing business having made it necessary to enlarge the sales force in that city.

Louis D. Gutknecht, formerly estimator and cost clerk for August Buschmann & Sons, Inc., Indianapolis, Ind., has been promoted by that company to the position of sales representative in the eastern Indiana territory, filling the position made vacant by the resignation of Claude D. Locke.

H. D. Stannard, of Milwaukee, Wis., has become associated with the Oscar C. Andersen Co., of Chicago. He will confine his activities to Chicago and vicinity.

Trade Literature

Here are mentioned each week the newest catalogues, booklets and folders that are of value to the trade. Copies may be had by writing the different companies. Or write "Domestic Engineering" on your letter head, listing the items you are interested in, and we will ask manufacturers to mail copies to you.

Fire Pots and Torches

Catalog T of the Clayton & Lambert Manufacturing Co., Detroit, Mich., shows its line of fire pots and torches which, it is stated, have been improved so as to burn the lower grades of fuel now obtainable. The makers claim that their double blunt needle fire pots and torches produce over 300 degrees more heat, burn gasoline or kerosene, and overcome fully 60 per cent of all burner troubles caused by the old style sharp pointed needles.

Valves and Regulators

The Foster Engineering Company, Newark, N. J., has issued Catalog 40, which is briefly descriptive of its products. This catalog carries 104 pages of condensed, tabulated information on valves of many kinds, regulators, and pump governors. These regulators have been used for many years by the United States Navy and for steam heating of trains. Many diagrams and half-tones help to explain the construction and operation of the Foster valve specialties.

Valve Specialties

Catalog 10 of the G. M. Davis Regulator Co., 422 Milwaukee Avenue, Chicago, carries a comprehensive presentation of the company's automatic valve specialties for steam, air, gas, water and oil. In addition to illustrations, descriptions and price lists, the reader is taken a step further and shown eight large buildings in which these specialties are being used. Charts for computing steam pipe and water pipe sizes and a table of the properties of saturated steam are included.

A Multitude of Thermometers

How many different kinds of thermometers do you know of? Have you ever heard of the cake gridle, the maple sugar, the bath, the photographic, the oven and the deep fat cooking thermometer? These and many others are listed by the Wilder-Pike Thermometer Company, of Troy, N. Y., in a new catalog which has just been issued. Specifications as to height, scale, tube and range are given for each thermometer.

Protection of Pipe Against Internal Corrosion

The National Tube Company, of Pittsburgh, Pa., has just issued Bulletin 3C, covering the subject of internal corrosion of pipe in a most thorough manner. The bulletin is a compilation from authorities which touches the question from several angles. The headings are "Fundamental Causes of Corrosion," "Details of the Mechanism of Corrosion," "Practical Means of Preventing Corrosion" and "Typical Results of Corrosion Prevention." Of special interest is a table summarizing the results of eight investigations of the corrosion of wrought iron and steel pipe in hot-water supply service.

NEW EQUIPMENT AND IMPROVEMENTS

A Solid Shell Float

To make a float without a hole or seam or solder appears, on the face of it, to be a physical impossibility. However, the seemingly impossible has been accomplished.

As a result of much experimenting a process has been perfected whereby a light mache paper form is taken, and upon which is electrolytically deposited copper in any desired thickness or strength. The first step in the manufacture of this solid shell float, shown herewith in miniature, is the pressing of a 1½-inch cap about a hexagon-shaped spud, thereby eliminating the use of any solder. In the casting of the light, balloon-shaped form it is recessed about the opening to exactly accommodate the spud cap. After this paper ball has been waterproofed, acid-proofed, puncture-proofed and cured, it is then prepared for the copper bath. It is claimed that the float is not harmed when dented, and will withstand the severest of abuse.

Twenty Years Ago in "Domestic Engineering"

Saturday, January 24, 1903

Kemp Company Rebuilds.—The C. M. Kemp Manufacturing Company, Baltimore, Maryland, is rebuilding its warehouse which was recently destroyed by fire.

New Manufacturers.—Gerstendorfer Brothers, New York City, have incorporated for the manufacture of enamel and bronze powders.

Brunswick Hotel Built.—The Brunswick Hotel of New York will have 1,100 rooms and will cost $3,500,000.

F. W. Herendeen Goes to New York.—F. W. Herendeen, who has been in charge of the Boston office of the Herendeen Mfg. Co., of Geneva, N. Y., will go to New York City, where he will be in charge of the eastern sales department.

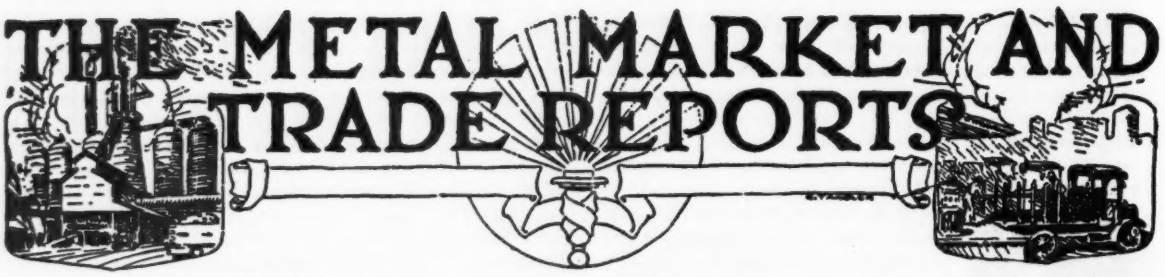
New Reading Plumber.—Wm. K. Bridegam has opened a plumbing and heating shop at Reading, Pa.

Rhode Island Annual Convention.—The Rhode Island Master Plumbers' State Association held its annual convention at Providence on January 15th.

American Pin Company Builds—The American Pin Company, Waterbury, Conn., is building a 60 x 160 ft. foundry in the rear of its plant. The present foundry will be used as a plating room.

Houston Strike Settled.—The plumbers' strike at Houston, Texas, has been settled, after a duration of three weeks. Open shop will be maintained, and after April 1st $5.00 per day will be paid.

THE METAL MARKET AND TRADE REPORTS



STEEL AND IRON

A labor situation bordering on the critical exists in the steel industry as it concerns the Pittsburgh district, with a shortage of at least 5,000 laborers, and until the condition is remedied there will be no boom in the industry; in fact, steel makers cannot hope to better their operation schedules. Importation of some labor from the South —men thrown out of work by the railroad strike—has failed to aid the situation materially; and, though orders sufficient to insure capacity operations are held by many concerns, the general opinion is that no boom of any consequence can be expected until such time as the labor shortage has been overcome. A shortage of skilled men is also being noticed at many points, this being especially true with regard to puddlers, and great interest is being manifested in the development of the mechanical puddling process, which, it is hoped, will remedy this situation. Inability to attract young men to the trade, is the main factor in the scarcity of puddlers; it is said that there is a decided disinclination on the part of the younger element to learn the trade. The mechanical process expected to remedy the situation is being worked out by the Youngstown Steel & Tube Company.

Active demand and buying of merchant bars, sheets and wire products featured the past week's steel market.

Tin Plate

Improvement in buying of tin plate is continuing, but there are sufficient independent makers looking for a better backlog to hold in check any definite advance in prices from the $4.75 base box. There is, however, a small tin plate capacity idle at this time, due to high operating costs, which for the present overlap the base price. Scarcity in semi-finished steel is indicated in the recent trading. Producers are hampered by poor railroad transportation. The leading interest has been seeking to start two additional blast furnaces for its billet supply since the end of the year, but has failed to get sufficient coke to the plant as yet. Many valley plants are operating in a hand-to-mouth manner, due to the impossibility of accumulating reserve fuel and raw material supplies.

Structural Steel

Plate and structural prices are moving to a higher level and last week developed plate prices up to 2.15 cents for the first time on the present rise. Most of the producers are well loaded with business for the remainder of the current quarter and can offer only much deferred deliveries. This is scattering new business over a broader field and tending to put prices on a higher level. Quite a strong demand is running for steel scrap, with slightly higher prices. Heavy melting steel is selling at $22, and from 12,000 to 15,000 tons changed hands in the Pittsburgh district last week at this price. Lighter forms of scrap, such as compressed sheet grade, have been selling quite actively also, and as high as $20.75 at producer's mill.

Pig Iron

There is a dearth of iron inquiries and orders at the moment. Consumers are well covered for the first quarter and all they want is prompt delivery against old contracts, which is in doubt, however, inasmuch as the railroad transportation situation is no better. Some furnaces are still out of the market on first quarter iron and refuse to quote prices for second quarter, except some of the Birmingham makers. The American Locomotive Company, supposedly, bought 2,540 tons of foundry iron for three plants last week. The National Radiator Company bought 2,000 tons of foundry iron through Philadelphia houses. At the close of the week $24 seemed to be the base for spot and second quarter at Birmingham. It is estimated that 15,000 tons for part first and part second quarter iron have been placed on this base.

The iron ore mined in the United States in 1922, exclusive of ore that contained more than 5.5 per cent of manganese, is estimated at 46,963,000 gross tons, an increase of 60 per cent, as compared with 1921. The ore shipped from the mines in 1922 is estimated at 50,046,000 gross tons, valued at $158,222,000, an increase of 88 per cent in quantity and of 76 per cent in value, as compared with the figures of 1921.

Coke

The buying of coke continued on a large scale last week, and the majority of the coke sold was for domestic purposes. Prices remained stationary, except in the Connellsville region, where there was a temporary softening, but conditions almost immediately changed and a firmness became evident.

Prices for pig iron are quoted as follows:

No. 2, foundry, Pittsburgh	$28.77@$29.77
No. 2X, Eastern Pa., Philadelphia	29.76@ 30.14
No. 2 Southern, Birmingham	24.00@ 25.00
No. 2 foundry, Chicago, furnace	29.00@ 29.50
Basic, valley, furnace	26.00@ 27.00
Bessemer, Pittsburgh	29.27

* * *

Copper

The past week in copper was one of distinct weakness. The large producers were unyielding from their 14¾ cents quotations, but the usual tribe of lesser producers and sellers who normally cut on a quiet market had their innings and brought the going price down to 14⅝ cents. Export prices dropped from 15 cents to 14¾ cents, c. i. f. European ports. As yet no tangible effect on German copper consumption has been noted because of the Ruhr occupation, but the symptoms are not encouraging. One of the most depressing factors was the phenomenal drop in the German mark. This is not an absolute barrier, as Germans frequently buy copper in American dollars and sell their finished goods on the same basis.

Tin

Though the market partially recovered at the close of the week, the net change for that period was downward. The London list dropped on an average of 17s 6d, and Straits tin was off in New York ¼ cent per pound net. Sterling exchange was ¾ cent lower. The constantly receding prices brought out some purchases from consumers, so that all in all the week was satisfactory, though not as heavy as to volume of sales as the preceding week.

The fact that an advance in tin could take place in the face of disturbing Continental developments speaks well for the economic condition of the tin market. Straits tin closed at 39 cents; Standard tin at 38½ cents. Tin arrivals in January have been: Atlantic ports, 4,575 tons; Pacific ports, 75 tons. Tin afloat is about 5,278 tons.

Lead

Conservative lead producers have feared lest the market run away. One producer has managed to uncover additional supplies suitable for January shipment, which he is offering in the hope that the rising tendency will be checked. The American Smelting & Refining Company has done its share in keeping the market in check by keeping prices unchanged at 7.30 cents East St. Louis, and 7.50 cents New York, which is $8 a ton under prices in the outside market, which are generally 7.70 cents East St. Louis and 7.90 cents New York. The large consumers are not buying, but cannot abstain from the market much longer.

Zinc

Though some zinc producers have withdrawn from the market until a 7-cent East St. Louis price again appears, some metal is available for prompt shipment at 6.825 cents, East St. Louis. Demand for the metal has fallen both for domestic and export consumption. Prices are 5 points lower for each succeeding month. The metal declined about $3 a ton last week.

Other Metals

Quotations on other metals in New York are as follows.

Aluminum in 50-ton lots, 99% and purer.....
.....25.00 cents per lb.

Antimony, Chinese brands..... 7.00 cents per lb.

New York Old Metal Market

The following prices are current for old metals:

	Buying	Selling
Copper, crucible	12½ to 12¾ cents	13 cents
Copper, light	10¼ to 10¾ cents	11 cents
Brass, heavy	6½ to 7 cents	7½ cents
Lead, heavy	6¼ to 6¾ cents	7 cents
Tea lead	4¾ to 5¼ cents	5½ cents
Cocks and faucets	8 to 8½ cents	9 cents
Solder joints	8½ to 9 cents	9½ cents
Zinc, new scrap	4½ to 5 cents	5½ cents
Block tin pipe	33 to 35 cents	36 cents

Chicago Old Metal Market

The following are the current prices for old metals:

	Buying	Selling
Crucible copper	12½ to 13 cents	13½ cents
Heavy copper and wire	11½ to 12 cents	12½ cents
Light copper	10 to 10½ cents	11 cents
Red brass	9 to 9½ cents	10 cents
Heavy yellow brass	7 to 7½ cents	8 cents
New brass clippings	8 to 9 cents	9½ cents
Heavy lead	6 to 6½ cents	6¾ cents
Light brass	5¾ to 6¼ cents	6¾ cents
Tea lead	4½ to 5 cents	5½ cents
Zinc	4 to 4¼ cents	4½ cents
Block tin pipe	32 to 34 cents	35 cents

IN THE CHICAGO SUPPLY MARKET

Some Price Advances Recorded and Anticipated—Some Jobbers Buying with a Rising Market Suggests That They Have Not Been Good Guessers

Chicago, January 24.—The Chicago market for the last seven days has not been unlike a maze through which jobbers have been feeling their way. That many of them have not been good guessers is indicated by the fact that a recent rise in prices in some commodities has been accompanied by greater activity in buying.

Soil Pipe

The activity in buying in the soil pipe field, which was characteristic of the first of the week, has continued up to the time of going to press. One manufacturer reports that jobbers are pretty well sold up, although a tremendous amount has been moved in the last few days. This does not coincide with the experience of other manufacturers, however, who say that, in their opinions, not more than one-fifth of the jobbers have placed orders for their requirements. The foundries are trying hard to get out the tonnage they have sold. The mild weather has acted as a great stimulus. "Just look at those orders we received this morning," said a well known manufacturer's representative. "The demand is strong not only on the foundry, but on the Chicago warehouses, which means that the materials are required for actual installation and not for stock." Prices continue firm. Some manufacturers are sending out letters telling buyers the time is limited when they will be protected at present prices and that they will not be responsible for advances on orders received after a certain date. Shipments have been coming through in good shape, even better than was hoped for a few weeks ago.

Wrought Iron Pipe

Jobbers' stocks of wrought iron pipe are still low and the demand has been holding up very strong. There are indications in some directions of an advance in prices. Production costs are getting heavier and if wrought iron pipe should go up, it would probably be due to increased costs, which are the result of scarcity of labor.

Brass Goods

Prices are firm, with hints of advances in some lines. Radiator valves have been advanced by one firm during the last week and others are expecting to get in line with the advance very soon.

Range Boilers

An advance in prices of range boilers is anticipated within the next few days. One manufacturer, when questioned about the predicted advance, said: "The cost of production has been climbing to such an extent that an increase in price will no doubt be necessary in the near future."

Enameled Ware

The demand for enameled ware is as strong as ever, with no particular change in the situation that has existed for some time.

Pottery

Among the various reports from the pottery districts is this one from a man from Trenton, N. J., prominent in the pottery field. On a recent visit to Chicago he said: "So far as the pottery strike is concerned, there really is no strike. The potteries are taking on new men and are not taking back any of the old men except as individuals. In a few months the potteries will be running to full capacity."

Closet Seats

That closet seats are going to advance in price within the next ten days, seems to be a foregone conclusion among some manufacturers of this article. "We may get a notice any time," said one manufacturer's representative, "that closet seats have gone up. There has been a very heavy buying movement going on in seats as well as in brass goods. Jobbers, anticipating price advances and shortages, have been playing pretty safe by ordering in advance of their requirements."

Washdown Bowls

The market for this commodity is in a feverish condition. Premium orders are being placed and accepted, and prices presaging a general advance have been paid. Orders have been placed during the last week that have showed a 10 per cent advance on previous prices. There really is

no market price, many of the manufacturers asking for what they think they can get.

Tank Fittings

Despite the advance of between three and four per cent on tank fittings recently recorded, the demand has continued strong and the further advance that was predicted has not materialized.

IN THE NEW YORK SUPPLY MARKET

Several Advances in Manufacturers' Prices—Pottery the Bogey of the Market

New York, N. Y., January 22.—While the trade demand was not particularly active this week, several advances on manufacturers' price schedules were noted, notably in certain lines of brass goods and in steam fittings and malleable lines. In the first named cases, however, it was not so much a new development as that additional houses followed the example set by others several weeks ago. The difficulty in obtaining shipments of certain lines of supply continues to cause concern among the jobbers in this market, particularly in pottery ware, where production in the higher grades is almost entirely suspended.

In spite of these drawbacks, jobbers remain optimistic. In one way or another they are managing to obtain supplies to cover their needs, with the possible exception of pottery ware and steam fittings, where the situation is decidedly acute. On the other hand the probable termination of the operation of the tax exemption law on April 1st is, as previously noted, causing builders to rush their programs in order to get all possible foundations in before that date in order to secure the benefit of the exemption, and the mild weather which has so far prevailed this winter has helped materially in this respect.

Soil Pipe

Among the individual lines of supply, soil pipe shows a fair demand, with shipments coming through better than they were earlier in the season. The last advance has now been generally adopted throughout the trade, and no further move is looked for at present.

Wrought Iron Pipe

Wrought iron pipe continues rather more plentiful, and buyers are coming into the market more freely, but are placing orders on a conservative basis, most of them following a marking-time policy in the hope of a price decline.

Steel Pipe

Steel pipe is a little harder to get, according to the experience of some jobbers, although others are not having much difficulty in this respect. Prices are firm, but there is no indication of any actual advance in the near future.

Brass Goods

A number of additional manufacturers of brass goods have announced advances averaging 10 per cent, but jobbers have not yet passed on the advances to the trade. This will presumably occur when stocks bought on the old levels have been liquidated.

Pottery

Pottery ware continues to be the bogey of the market, with supplies, particularly in the higher grades, scarce and almost impossible to get. There is a certain amount of production in the cheaper grades, which do not require much skilled labor. There is no amelioration reported in regard to the strike situation, both parties to the dispute standing firm, and it has become a mere test of endurance.

Enameled Ware

Enameled ware is still scarce and many jobbers are obtaining supplies by shopping among themselves, which is not a satisfactory method. It occupies more time and in some cases produces no results; and when supplies are obtained the prices demanded are often quite unreasonable. So acute is the situation that one well-known jobber reports that during a visit to Pittsburgh this week he actually saw enameled ware being taken out of the oven, put for a brief period in the cooling room, packed and shipped, all within the space of one hour. This, of course, is taking a risk in more ways than one and would be almost unbelievable if it were not that the information comes from a source of unquestionable veracity.

Steam Fittings

An advance this week of 7½ per cent in steam fittings has not caused any particular surprise. Deliveries in this line are still several weeks in arrears, and jobbers are willing to pay almost any price. It is regarded as probable that the present shortage will continue throughout the rest of the season, and, with the big building program already slated for 1923, jobbers anticipate that the situation next winter will be even worse, as manufacturers of heating equipment are apparently determined not to overproduce.

LECTURE DATES AHEAD FOR THE NATIONAL TRADE EXTENSION BUREAU LECTURERS

Dates so far arranged for the next few weeks are as follows:

J. C. Greenberg.—January 29, Muncie, Ind.; 31, Anderson, Ind.; February 1, Detroit, Mich.; 7, Cincinnati, Ohio; 9, zone meeting, Lexington, Ky.; 12, zone meeting, Huntington, W. Va.; 14, Clarksburg, W. Va.; 20, Pittsburgh, Pa.

W. G. Archer.—January 29-31, state convention, Decatur, Ill.; February 2, local association, Tulsa, Okla.; 9, zone meeting, Aberdeen, S. D.; 12, zone meeting, Watertown, S. D.; 14, zone meeting, Mitchell, S. D.; 16, zone meeting, Sioux Falls, S. D.

B. Jos. O'Donnell.—February 2, Charleston, S. C.; 5, Florence, S. C.; 6, Columbia, S. C.; 7, Wilmington, N. C.; 8, Goldsboro, N. C.; 9, Wilson, N. C.; 10, Raleigh, N. C.

TWO HUNDRED AND FIFTY GUESTS AT "OPEN HOUSE" OF BUILDING TRADES SCHOOL

Two hundred and fifty guests gathered for the "open house" of the Building Trades School, 500 Throop Street, Chicago, Ill., on Tuesday evening, January 23. Classes in plumbing, sheet metal work, bricklaying and other trades were in progress during the evening, after which refreshments were served.

All of those present were very enthusiastic over the idea of the school and the progress shown. This school was established under the auspices of the Citizens' Committee to Enforce the Landis Award.

The proficiency shown by plumbing students, after two weeks' study and practice, won the admiration of all the plumbers present.

Among those in attendance representing the plumbing field were: J. I. Elliott, 4823 Cottage Grove Avenue; John Chladek, 4251 Indiana Avenue; A. G. Bain, of E. Baggott Co., 55 East Lake Street; R. Davis, Myron Potts and Mr. Haag, of the M. J. Corboy Co., 178 West Randolph Street; A. E. Weinburg, 108 East Fifty-first Street; W. S. Eadie, 3438 Indiana Avenue; W. C. Shaw, 426 East Forty-third street; Louis Strauss, 3304 Cottage Grove Avenue; James J. Laughlin, 7531 Cottage Grove Avenue; Thos. Dalton, 1718 West Van Buren Street; John A. Khym, 311 East Forty-seventh Street; J. H. Boecher, 6016 Broadway; John S. Tresch, 7723 South Halsted Street; W. F. Knauss, 2 Cedar Street, and E. F. Flavin, 161 West Lake Street.

With DEALERS and CONTRACTORS
NEWS and VIEWS

NEW YORK MASTER PLUMBERS TO MEET IN NEW YORK CITY, MARCH 20 AND 21

Arrangements for the annual convention of the New York State Master Plumbers' Association were materially advanced by a recent meeting of the Executive Committee, held at Syracuse, N. Y.

All the members of the board were present, with President Matthew J. Kennedy, of Brooklyn, in the chair. While the meeting was ostensibly called to complete arrangements for the convention—which, as a matter of fact, were already more or less agreed upon—considerable time was given to a plan propounded by President Kennedy to increase the membership of the state association. He recently made a tour of the various state locals and his plan was to issue a card which might be displayed by members, which would improve their standing and at the same time boost the state association. The members present agreed to the adoption of this plan.

It was also agreed to accept the offer received from New York to hold the convention in that city, the dates fixed being March 20th and 21st.

CLEVELAND PLUMBING CONTRACTORS ELECT OFFICERS

At the annual meeting of the Associated Plumbing Contractors of Cleveland, on January 18th, the following officers were elected: President, L. W. Webb; secretary, Eb Ellen; treasurer, D. Perlick, of Perlick Garber Co. These three officers occupied the same offices last year. Chas. H. Mallett, of the Schneider Plumbing Co., was elected vice-president, and Chas. Seifried, sergeant-at-arms.

J. M. MARTIG ELECTED PRESIDENT OF OMAHA ASSOCIATION

At the annual meeting of the Master Plumbers' Association of Omaha, Nebr., January 16, J. H. Martig, was elected president, John A. Anderson, vice-president, Leo Baroch, treasurer, and E. H. Brown, secretary. The newly elected directors are: B. Grunwald, J. J. Ostronic, W. J. Cattin and J. C. Bixby.

NEW OFFICERS ELECTED AT KANSAS CITY, MO.

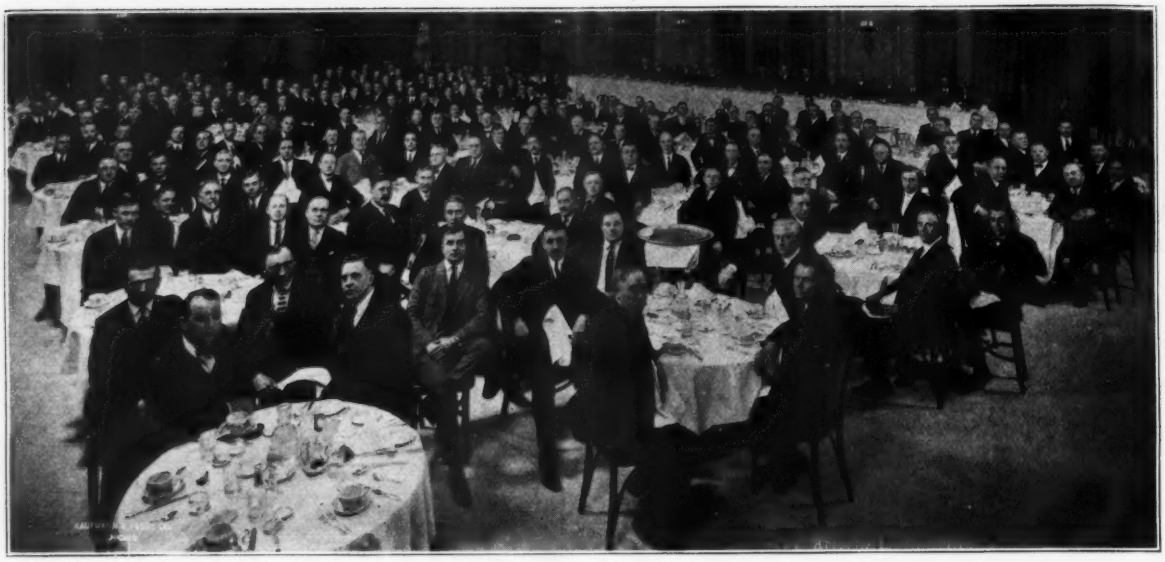
The Master Plumbers' Association of Kansas City, Mo., at a recent meeting elected the following officers for the ensuing year: Geo. L. Satterlee, president; E. A. Schenck, vice-president; Claude Smith, treasurer; Herman Hampel, secretary; C. E. Jones, E. I. Knapp, and E. A. Kuebler, trustees. At the installation, the association rooms were decorated and refreshments were prepared and served by the Women's Auxiliary.

SEATTLE ASSOCIATION ELECTS OFFICERS

The Master Plumbers' & Heating Engineers' Association, of Seattle, Wash., recently elected the following officers for the ensuing year: President, W. J. Ashwell, of Ashwell & Twist, succeeding W. H. Ruddell, of the West Coast Heating Company; vice-president, Ben Randall, of the Randall Plumbing Company, succeeding W. J. Ashwell; secretary-treasurer, J. J. Ward, re-elected.

Two new members of the board of directors were elected and one re-elected, the latter being P. J. Lavan. The directors elected were: F. C. Hellenthal, of the

Banquet Given in Honor of New Officers of the Master Plumbers' Association of St. Louis, Mo., at the American Annex Hotel in That City, January 15, 1923.—See Report in January 20th Issue of "Domestic Engineering."



The Annual Banquet of the Chicago Master Plumbers' Association, Held in the Morrison Hotel, Chicago, January 6, 1923.

Hellenthal Plumbing & Heating Company; and F. A. Dupar, of the Dupar-Blythe Co. The hold-over members of the board of directors are: J. J. Ward, W. H. Ruddell and W. J. Ashwell.

EDUCATIONAL CAMPAIGN ON SANITATION TO BE LAUNCHED BY SANITATION DEVELOPMENT LEAGUE OF SAN FRANCISCO

Chairman Ben F. Blair at last week's meeting of the Sanitation Development League, of San Francisco, announced that the league would soon launch an educational campaign on modern methods of sanitation. If the plans of the city, as outlined by the speaker, City Engineer O'Shaunessy, materialize, San Francisco may well enjoy a "bath a day." The present plans will increase the water supply ten times. To this will be added the development of power. The city is working three shifts to make use of the 45,000 h. p. at the Lake Eleanor dam. The ultimate purpose is to develop there one million h. p.

NORTH HUDSON MASTER PLUMBERS' ASSOCIATION'S ANNUAL MEET

The North Hudson Master Plumbers' Association met at Union, N. J., January 15th for their annual dinner and installation of officers, various speakers and the presentation of a beautiful reading lamp to the retiring president, Eugene Steffens, by the members of the association, adding interest to the occasion.

The officers for the year 1923 are: Charles Zimmerman, president; William Jacobs, vice-president; Otto Vehring, financial secretary; C. Westerfeld, treasurer; Frank Kaspar, recording secretary; trustees: Alexander Tlavi, Frank Linsberg, Charles Stellas, Simon Birchland and Tony Ducato.

William Orris, of North Hudson, N. J., who will become president of the state association next June, spoke of the many things proposed for 1923 and emphasized the fact that co-operation among members was necessary for the smooth running of association affairs. Eugene Steffens, the retiring president, thanked the members for their support and assistance during the two years he has been in office and for the gift presented to him as a token of appreciation for the work he has done. The report of his recent marriage was, by the way, a surprise to his many friends in the association. Other speakers were Frank Fell, of Trenton, N. J., president of the New Jersey state association, who spoke of the help needed for the apprenticeship bill now in legislature; Wm. F. Beck, organizer of the New Jersey state association, who spoke on the needs of organization, and the lack of interest of plumbers in the real management of their business, and calling their attention to the fact that they should read trade papers continually, Joseph C. Durr, second vice-president of the New Jersey Association, and Frank Chew, of New York City, also spoke.

MASSACHUSETTS PLUMBERS KNOW HOW TO ENJOY THEMSELVES

The Newton Master Plumbers' Association, which comprises in its membership the master plumbers of Newton, Watertown, Waltham and Needham, Mass., held a delightful social Wednesday evening, January 10, at Newtonville, Mass.

The affair was in the form of an entertainment and dance, with a buffet lunch. Charles O'Neill, of Waltham, president of the local association, introduced G. Wilbur Thompson, former state president, who extended a general invitation to the associations in the zone to hold meetings at which he agreed to be present, and Somerville, Boston and Framingham representatives accepted the invitation.

President E. W. Cox, of the Massachusetts Master Plumbers' Association, responded on behalf of the state organization, telling of its work, its growth and its present membership. Andrew F. Curtin, of Medford, Mass., a former state president and also a former national director, spoke on behalf of the National Association. Ex-Mayor William A. Bradford, of Quincy, Mass., a former state association president, spoke in a humorous vein of his political life and his recent defeat by a handful of votes for re-election as mayor of the shipbuilding port of Massachusetts. State Secretary W. C. Russell Goudey, of Brookline, Mass., and State Treasurer J. Preston Perham, of Boston, touched upon the value of association work and the splendid spirit of good fellowship resulting both from the business and social meetings.

Mrs. J. Preston Perham, who is one of the national directors of the Women's Auxiliary to the National Association of Master Plumbers, and who is engaged in organizing a state auxiliary as well as auxiliaries of locals, spoke of the advantages of such auxiliaries and outlined plans for the Massachusetts Auxiliary. She was warmly received, and as a result of her address an auxiliary to the Newton Association is to be formed.

An entertainment consisting of vocal selections by John Joyce, of Newton, a steam fitter, and piano selections by Edmund Rublee, of Newton, a nephew of Mrs. G. Wilbur Thompson, were warmly applauded and encores were given. Dancing was then in order to music by the "Jolly Jazz" orchestra, of Milton, until midnight.

The program was the most elaborate undertaken by any of the Massachusetts locals and sets a pace which will be hard to follow.

BETTER RELATIONSHIP BETWEEN PLUMBERS AND GAS MEN SOUGHT IN PORTLAND CONFERENCE

The fourth meeting of the Gas Institute of Portland, Me., was held in that city recently with sixty-six of the members in attendance, including several visitors who are interested in the work which the Institute is carrying forward. They came to get information relative to the formation of similar institutes in their localities.

The Institute is composed of master plumbers, architects and representatives of gas companies and the object is to bring about better understanding and a better business relationship between the several organizations.

NEW YORK PLUMBERS' ANNUAL BALL TO PUT THE PLUMBING FRATERNITY ON THE MAP

The committee in charge of the arrangements for the annual ball of the Greater New York Master Plumbers' Association, to be held at the Pennsylvania Hotel on January 29th, is looking forward to an attendance which will eclipse that of a year ago. Announcements issued by the committee indicate that the most convenient entrance to the hotel for those attending the ball will be at 33rd Street and Seventh Avenue. Tickets are now on sale at $3, admitting a gentleman and a lady, and it is hoped that every master plumber and journeyman in the city will either be present or have a good reason for not being there. Attention is drawn to the fact that a big attendance at this function, which is to be held at one of the most fashionable hotels in the city, will do more to put the plumbing fraternity on the map than almost any other means could do, and members and others are urged to attend to show their pride in their trade.

TO PUT LOUISIANA AND MISSISSIPPI IN THE FRONT RANKS IN MODERN SANITARY AND HEATING EQUIPMENT

Plans were laid recently to increase the membership in plumbing associations in Louisiana and Mississippi, and to drive home the lesson of better sanitary and heating equipment for the people, and better service on the part of plumbers. The start was made at a meeting of officers and directors of the Louisiana-Mississippi Association of Plumbing and Heating Dealers, held January 12th, at New Orleans, La.

It was decided to divide the territory into four zones, the president and each of the directors taking a zone.

"Our aim is to put Louisiana and Mississippi in the front ranks in modern sanitary and heating equipment," said W. L. Tarrant, of Shreveport, La., president.

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Made in a wide range of sizes—from the small surface burners to large self-feeding type. You'll find them suitable for any job.

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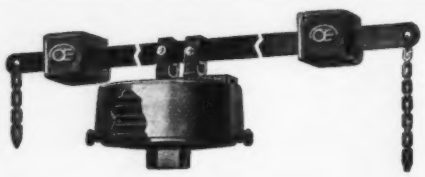
EDWIN W. SEDGWICK, President — HARRY M. SEDGWICK, Sec. and Treas.



"O-E" All Metal "3 in 1"
Combination Damper Regulator

The only sensitive damper regulator made that will operate under vacuum without danger of damaging the diaphragms or action members.

Can be used on vapor, vacuum or pressure heating systems by merely changing the fulcrum position and shifting the weights and lever—an exclusive feature.

Made in two sizes—No. 2 for medium and large size house heating boilers, and No. 3 (extra sensitive) for large heating boilers, and vapor-vacuum.

Illustrated descriptive circular mailed free on request.

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SINGLE PIPE
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Simple to Install
—Any steam fitter can put in this system.

LOW IN COST

Does the Work
—We have the successful installations to prove it.

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GORTON & LIDGERWOOD CO.
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FISHER BLDG., CHICAGO, ILL.

Others attending the meeting were: Hunter S. Charlton, of New Orleans, treasurer; P. Escudier, of Lafayette, La.; J. R. Lawton, of New Orleans; Alonzo B. Hayden, of Pass Christian, Miss., and Leander Marx, of New Orleans, directors.

J. O. Montrief, of Fort Worth, Tex., director of the National Association of Master Plumbers, represented that organization. He made a talk on the association and the National Trade Extension Bureau.

It was announced that the state convention of the Louisiana-Mississippi Association of Plumbing and Heating Dealers will be held in New Orleans, April 26 and 27.

SEATTLE SANITATION DEVELOPMENT LEAGUE WELCOMES ANYONE INTERESTED IN THE TRADE

A New Live Wire Organization the Success of Which Is Assured, Say Its Members

In order to encourage a more extensive use of modern high grade plumbing and heating material and to promote in a general way the welfare of the plumbing and heating industries in Seattle, prominent men of the trade, jobbers and manufacturers' representatives on January 12th, formed the Seattle Sanitation Development League.

The League was formed with 47 charter members and, although officers have not yet been elected, the number has been added to considerably. At the organization meeting the following board of directors was named to complete the work of enlisting every man in the trade in Seattle in the movement.

Those representing the jobbers at the meeting were: F. B. Delong, E. H. Hunt, F. C. Neupert, F. X. Urquhart and W. G. Montgomery. The master plumbers and heating engineers were represented by Claude Eckart, A. E. Ayers, W. J. Ashwell, William Ruddell and J. J. Ward.

At the organization meeting, F. B. Delong, Seattle Branch Manager of the Walworth Manufacturing Company, who has been the prime mover in organizing the league, presided. He will continue presiding at the meeting to be held weekly for a time, until officers to serve during the remainder of the year are elected.

The Seattle Sanitation Development League will not, in any way, interfere with the functioning of the Seattle Master Plumbers' & Heating Engineers' Association. While this association, naturally, restricts its membership to men of the trade, the new league will welcome to membership anyone interested in the trade. However, the league will draw a large portion of its membership from the Seattle Master Plumbers & Heating Engineers' Association, but the members drawn will still retain their affiliation with the older organization.

In the constitution and by-laws of the Development League, it is stated the organization will aim to accomplish the objects for which it was formed by:

(1) Urging the adoption of durable and efficient devices and fixtures and the safe and proper installation of same.

(2) By the promotion of good fellowship between those engaged in the various branches of these industries.

(3) By concerted action through lectures, papers, discussions and publicity to educate the public in the application of plumbing necessary to its needs.

(4) By acting in a spirit of co-operation with similar organizations in the United States to promote standardization of commerce and industrial practice in their lines of business.

(5) To promote higher ethical standards.

(6) By the interchange of ideas and business methods to increase the efficiency of the members.

OMAHA MASTER PLUMBERS ENTERTAIN MASTER BUILDERS

J. H. Martig, President of the Omaha Master Plumbers, Shows Why Prices Should Not Go Any Higher

The Master Plumbers' Association of Omaha, Nebr., in conjunction with the Omaha Electrical Contractors and the Omaha Builders' Exchange, was host to the delegates to the eighth annual convention of the Master Builders' Association of Nebraska, at a banquet given at the Fontenelle Hotel in that city on January 18th. More than 500 persons attended the banquet.

J. H. Martig, newly elected president of the Master Plumbers' Association, one of the principal speakers, stated that 1923 was to be one of the biggest, if not the biggest year in the history of the construction industry.

"Every person at this banquet must see to it that all prices remain just as near as possible to where they are now. If we have an inflation, building will cease and then we will have a period of depression," Mr. Martig said. "We owe it to the people of Omaha and Nebraska to keep prices down. If we fail to do it, we will suffer the penalty. Building is going on at the present time far better than we had ever expected, and present conditions indicate that it will continue throughout the winter without any let up. We can bring this about if we will keep all prices where they should be."

Local plumbers, who attended the banquet, were: P. A. Blum, H. Fred Fischer, George A. Hill, T. C. Rich, J. H. Martig, Joe Bernstein, Clarence R. Dodds, T. F. Balfe, J. A. Wessman, Allen Wallen, B. Grunwald, R. E. Krimlofski, William T. Whelan, John Redgwick and John J. Ostronic.

JERSEY CITY MASTER PLUMBERS' ANNUAL DINNER

The Master Plumbers' Association of Jersey City, N. J., will hold its annual dinner February 1 in the Masonic Club hall in that city.

NEW PLUMBING INSPECTOR APPOINTED AT STAMFORD, CONN.

Thomas M. Kinsella has recently been appointed plumbing inspector of the Building Department of Stamford, Conn., succeeding Joseph Ross.

PLANNING NEW GYMNASIUM IN PROVIDENCE, R. I.

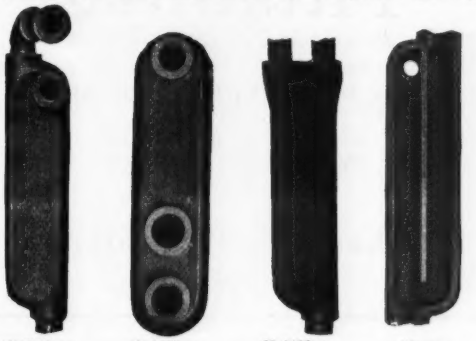
The plans for the new $200,000 gymnasium to be erected at the high school by the Public Building Department of Providence, R. I., are nearing completion, and it is expected that bids will be taken on the new structure about the middle of February. There will be 200 dressing rooms for boys, and an equal number for girls; 32 showers will be installed in the girls' section, and 16 in the boys'.

BILL WOULD CONTROL PLUMBING IN DISTRICT OF COLUMBIA

Chairman Focht of the district committee of the House of Representatives, introduced a bill to regulate plumbing and gasfitting in the District of Columbia a few days ago. It provides that applicants for licenses as master plumbers or gasfitters, who are bona fide residents of the district, must be twenty-one years of age and make application in their own handwriting. This must be accompanied by a certificate signed by at least three reputable residents of the district, two of whom must be engaged in the plumb-

Blake Cast Iron Water Heaters

Tested—No Leaks—Low in Price—High in Quality



H-1320 or H-1321 | H-1325 or H-1326 | H-1330 or H-1331 | Cross Section

These little heaters are the best and cheapest you can buy Made to fit any style furnace or boiler, will develop maximum efficiency, having one foot of heating surface, which is ample to carry 35 feet of radiation. Brass cleanout plugs at bottom make it easy to blow out sediment. Just the thing for furnishing hot water in connection with 30 or 40 gallon range boilers.

Nos. H-1320 and H-1321 can be lengthened out for any holes in boiler. (We do not furnish elbow.) Nos. H-1325 and H-1326 are 2½-inch center to center of boiler connection; H-1330 and H-1331 are 2-inch.

	TAPPING		TAPPING
No. H-1320	¾ inch	No. H-1326	1 inch
No. H-1321	1 inch	No. H-1330	¾ inch
No. H-1325	¾ inch	No. H-1331	1 inch

Approximate measurements 2½" x 3¼" x 12". Weight about 8½ pounds. All receive a thorough water test before shipping. All jobbers will be glad to supply you.

Catalog H, showing our full line of Plumbers Specialties will be sent you on request

Blake Specialty Co., Rock Island, Illinois

Mr. Plumber

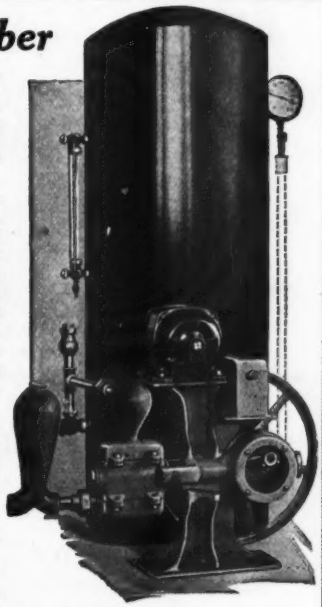
DON'T YOU KNOW—that REAL SERVICE is remembered LONG AFTER the bill is paid and forgotten?

That is why after you have installed a UNIFLOW DOMESTIC WATER SYSTEM, the customer's satisfaction with the PERFECT working of the outfit is all he thinks of, and is sure to recommend it to his friends and neighbors.

AND NO WONDER.

Quiet running—perfect lubrication, which increases the life of the pump, and cuts repair costs, and then a CONSTANT saving in power bills.

WHY SHOULDN'T he be pleased with it?



None other can compare with the UNIFLOW.

When remodelling or building, for YOUR OWN PROFIT and SATISFACTION, INSIST ON UNIFLOW PUMPS.

Plumbers Investigate

Uniflow Pump & Mfg. Co.

427 Valley St., Tel. East 47 Dayton, Ohio

Pittsburg
Automatic Gas Water Heaters

USE A PITTSBURG AND BE SURE
IS A GOOD BUSINESS
INSURANCE POLICY

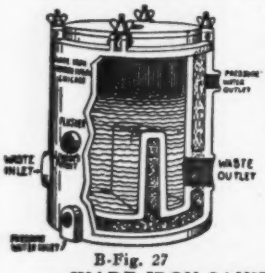
Pittsburg Water Heater Co.
Pittsburgh, Pa.

CLARAGE KALAMAZOO Multiblade Fans
are installed for Heating, Ventilating and Humidifying Service in hundreds of public buildings and industrial plants.

Write today for Catalog No. 52 describing the Multiblade Fans. Let us explain to you why Clarage Equipment gives you better value, dollar for dollar. Have Clarage Engineers co-operate with you in solving your problems.

CLARAGE FAN CO.
KALAMAZOO MICHIGAN
Branch Offices in Principal Cities
Mfrs. of Fans, Blowers and Engines

WADE Water Jacket Grease Trap



B-Fig. 27

The unusual success of this trap is due to the special design and working principle. Entire body, walls and center partition surrounded by cold water. Grease congeals as soon as it enters trap and floats to top where cleanout cover permits easy removal.

Used largely under kitchen sinks in hotels, clubs, etc.

WRITE FOR CATALOG.

WADE IRON SANITARY MFG. CO.
551 W. Fulton Street, Chicago

The Wales
Automatic Heater

combines Simplicity, Durability and Safety with Economy. The one size meets the demand for a self-contained Automatic Storage System without the necessity of a storage tank—capacity 300 gallons per hour.

Write for complete details

The Wales Co., Kalamazoo, Mich.

ing and gasfitting business in the district, and who shall certify that the applicants have had at least four years' practical experience.

The proposed legislation provides that non-resident applicants must present to the Commissioners the certificate from the examining board of plumbers or gasfitters in the state in which the applicant has been doing business.

The Focht bill provides that the fee for a license as master plumber or gasfitter shall not be less than $25 or more than $50 a year, to be fixed by the District Commissioner. It would give the commissioners power to suspend or revoke any plumbers' or gasfitters' license for violation of regulation, after a public hearing.

COMMUNITY HEALTH MASS MEETING FOR JACKSONVILLE, FLA.

Invitations were issued recently to the Chamber of Commerce of Jacksonville, Fla., to attend the community health mass meeting to be held in that city under the auspices of the American College of Surgeons.

COURT HOUSE HEATED FROM COUNTY JAIL

A new court house has been erected at St. Cloud, Minn., at a cost of $850,000. The building occupies, with its terrace, the entire court square block, and is heated by a large plant in the new county jail, 150 ft. away. The jail is connected with the courthouse by a tunnel five feet wide and seven feet high.

INDICATIONS POINT TO ANOTHER BIG CONSTRUCTION YEAR IN INDIANAPOLIS

If surface indications count for anything in making an estimate of new construction work planned or projected, Indianapolis again should lead the way among the cities of the Middle West during the first half of 1923. This prediction is made partly because of the great amount of new work already under contract; new work just getting under way and enterprises that are now developing, together with the vast amount of work now in the hands of Indianapolis architects.

To venture a prediction that the coming year will surpass that of 1922 in the amount of new construction, however, might go far astray, owing to the fact that most of the enterprises now being planned call for construction work during the first half of the year. This much, however, is admitted by architects and contractors generally—the volume of new work under consideration at this time is far in excess in total construction costs, as well as in total numbers of that under way in early January of 1922.

Enterprises Under Way

Among the new enterprises already provided for or that are being projected are: Maple Road Methodist Episcopal Church, estimated cost, $600,000; Meyer-Kiser Bank building, a twelve-story structure; two factory buildings for American Can Company, estimated cost, $300,000; five-story factory building of the Indianapolis Glove Company; factory warehouse for A. A. Wilkinson; office building at Pennsylvania and Michigan Streets; large one-story automobile service building, 112 by 122 ft., Capitol Avenue and St. Clair Street, and factory building, 80 by 200 ft., English Avenue and Belt Railroad. In addition are several large enterprises involving downtown real estates which as yet have not passed the "inquiry" stage.

Plans are now under way for business buildings, office structures, churches, garages, warehouses and factory buildings and in most instances those who are planning

new construction want construction work under way as early in the spring as possible. There are indications, however, of a let-up in construction of apartment and office buildings, the belief being in some quarters that much of the needs along those lines were met during last year's high record boom.

Whatever decrease may result in those lines is absorbed in activity in commercial and industrial work, it is claimed by some of the city's architects.

HARVARD MAY INSTALL NEW $100,000 SWIMMING POOL

A new swimming pool for Harvard University, Cambridge, Mass., within a year is one of the objectives which the athletic authorities have set for themselves. It is positively shameful, they contend, that Harvard's equipment is so antiquated, aquatically speaking, and the college architect has been asked to submit a proposition on a swimming pool.

The hazy outline for the new pool provides a gallery for some 300 or 400 spectators.

BETWEEN SEASONS LULL IN MILWAUKEE BUILDING

Although the year that has just closed proved to be the biggest building year in the history of the city of Milwaukee, at the present time there is not much big work getting under way. This is a normal condition that is experienced in every locality at this time of year, and Milwaukee contractors are confident that the coming building season will not only open earlier than usual, but will last longer.

The likelihood of its opening earlier is indicated by the large number of plans for figuring that are flooding the contractors, although very little work is being let at the present time.

Plans have been completed and bids are being accepted on the subcontracts for a $3,000,000 theatre and office building, to be located at Sixth and Grand Avenue. This is the most attractive piece of work on the schedule right now.

OMAHA MASTER PLUMBERS TO PARTICIPATE IN $20,000 RADIO STATION

The Omaha Master Plumbers' Association is one of the twenty organizations contributing to the construction of a big radio station on top of the Woodmen of the World Building, at Omaha, Nebr., a structure which reaches 258 ft. in the air. The radio station will cost in the neighborhood of $20,000.

SIMMONS COMPANY PROUD OF ITS WORK

The Simmons Plumbing & Heating Company installed all plumbing and plumbing fixtures in the "Ideal Electrical Home," which is being used to stimulate home building in Wichita, Kan.

The bathroom of the "Ideal Electrical Home" is equipped with a one-piece modern solid built-in porcelain tub. Trimmings are all of white china handles, escutcheon and rail. The lavatory is in one piece, porcelain enameled, with compression faucets and with china handles. A white porcelain noiseless closet combination, with celluloid seat, completes the sanitary equipment.

Visitors are invited to inspect the kitchen fixtures when visiting the home. Plumbing in the basement consists of one two-part laundry tub with floor drain and automatic water heater, that means in common language, "Turn on the faucet and get hot water." Mr. Simmons

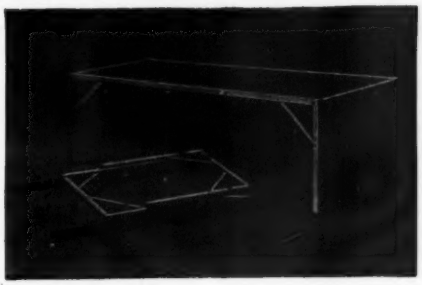
Sizes:
2, 3 or 4 inch

BOOSEY'S Back Water Valve
For Floor Drains

It fits any tapped drain and assures positive protection against sewage backing up. The closed valve top protects the ball against sticks or other instruments used for cleaning trap. Fool proof and practically indestructible.

Write for Prices

Greenwood Manufacturing Company
5140 Hamilton Ave. Detroit, Mich.

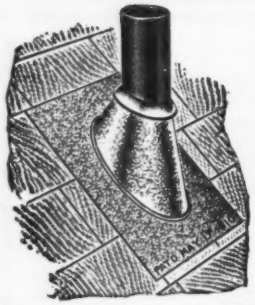


A Laundry Tray Frame That Is Right

We are Laundry Tray manufacturers and have built our frames along lines of what we know a laundry tray should be supported with. This means that supports are in proper place and that frame is rigid. Legs are not proper supports for a tray. Made in a wide range of sizes to fit any standard laundry tray. The most economical stand made—collapses for shipping and requires a minimum of labor to set up.

Ask your jobber, or write us

D. D. WESSELS & SON
1645 East Euclid Avenue
DETROIT - - MICHIGAN



Don't Be Content

With Ordinary Roof Flashings

Specify and Use the Reliable

"SIMPLEX"

Made in All Lead—Copper—Galvanized Iron

Every Flashing Adjustable
Every Flashing Perfect

Manufactured only by

Simplex Mfg. Company, 213 W. Austin Ave., Chicago

Canadian Representative:
W. H. Cunningham & Hill, Ltd., Toronto, Ont.
New York Representative, John G. Kelly, 137 E. 43rd Street

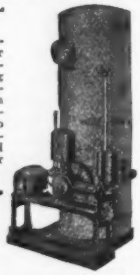
Can You Afford to Sell any Water System Without These PAUL Features?

Send for free booklet on water system installation

Fool-proof pump and controller—Self-priming (air-compressing) pump—No "sniffer valves"—Self-adjusting packing—No stuffing box — Non-corroding pump-lining throughout—Two point crank shaft suspension—All working parts accessible with one-size wrench—Self-lubricating, self-adjusting, automatic operation, requiring no tinkering or attention. These Paul features make Paul operation positive and certain without the owner's attention or costly "free service" from your shop.

Ft. Wayne Engineering & Mfg. Co.
1706 N. Harrison St., Ft. Wayne, Ind.

Service Offices, carrying systems in stock: New York, Philadelphia, Boston, Minneapolis, Portland, Ore., Kansas City, Mo. Also service offices at Buffalo, Providence, R. I., Pontiac, Mich., Peoria, Ill., Madison, Wis., Wilson, N. C., Omaha, Neb.



WATER PAUL SYSTEMS

There is a Paul Water System to meet all requirements of any capacity, pumping from shallow or deep well, cistern or spring.

WHERE the requirements of the job call for a large, flat refrigerator drain, our No. 2 will fill the bill to a "T." The loose bell strainer permits the water to flow readily thru but effectually prevents solids from stopping drain pipe. Dimensions, 10 in. diameter; 2 3/16" deep; tapped 1¼" or 1½" I. P.

SANITARY CO. of AMERICA
LINFIELD - PENNA.

2,195,100 Perfect Pipe Joints!

Holds the pressure yet does not harden

In 1922 enough

Deegan's THREAD-JOINT SEAL

was sold to make up 2,195,100 joints of one inch pipe.

Yet only *one* complaint was received, and that was quickly adjusted.

Chard & Howe 256 Front Street NEW YORK, N. Y.

desires that all visitors inspect the plumbing and fixtures carefully, as it will prove an incentive to better plumbing.

FEWER PLUMBERS' LICENSES

The members of the Plumbers' Examining Board of the Board of Health of Paterson, N. J., report a slight falling off in the number of licenses issued this year to both master and journeyman plumbers. Last year 231 master plumbers were licensed, while only 204 such licenses were issued in 1923. The number of journeyman plumbers licensed last year was 198 and only 173 have received licenses this year. Other cities in the eastern states report a similar condition.

NOW IN CHARGE OF SAN FRANCISCO SALES DISTRICT

Foster Glaspell, who has been manager of the Seattle and Washington territory for the Pacific Sanitary Manufacturing Company, has been placed in charge of the San Francisco sales district. Mr. Glaspell is well-known throughout the Northwest, having previously been with the Chase Company.

THIS AND THAT — HERE AND THERE

M. H. Simon has entered the plumbing and heating business at 115 South Queen Street, York, Pa.

Effective February 1, the firm of W. A. McLaughlin & Co., Hazelton, Pa., will be succeeded by the Hazelton Plumbing and Heating Co. A partnership has been formed between Walter A. McLaughlin and Harry E. Sharkey. The offices and salesroom will be at 5 West Diamond Avenue.

P. L. McQuillen, of Chippewa Falls, Wis., has installed the plumbing in the new school building of that city.

The Chester Plumbing Company, Chester, Pa., has been awarded a contract for plumbing 187 residences for the Republic Cotton Mills at Great Falls.

Harry W. Hammersla, Harrisburg, Pa., has been appointed assistant city plumbing inspector of that city.

The Etowah Tin and Plumbing Co., Etowah, Tenn., was purchased recently by Clay Swain and Ed Herron.

Edward J. Sullivan, of Providence, R. I., has been awarded the plumbing and heating contracts on the $300,000 grammar school which is to be built on Summitt Avenue, by the Public Buildings Department of Providence.

Frank B. Woods, plumbing and heating contractor, of Everett, Mass., has incorporated his business under the name of F. B. Woods Company, with a capital stock of $25,000. William H. Pickering is president, and Mr. Woods is treasurer of the new company.

J. E. Keuchler, a retired master plumber of Jacksonville, Fla., is now making an extended tour of Europe.

Gilmour, Empire & Company have opened a show room for plumbing fixtures, gas stoves, and electrical goods at 218 Main Street, Jacksonville, Fla.

The plumbing and heating contracts for the new $50,000 fire house at Huntington Station, Long Island, N. Y., have recently been awarded. Louis Bender, of Huntington Station, was awarded the plumbing contract, and D. S. Tuthill, also of Huntington, was awarded the low pressure steam heating contract.

Plumbing Contractor Louis Bender has recently opened his new showroom in the building erected for the purpose on New York Avenue and Broadway, Huntington Station, N. Y.

Zoll Bros., of Huntington Station, N. Y., have been awarded the plumbing and heating contracts on five new dwellings to be erected in Huntington.

Paul Staehle, of East Setauket, N. Y., has completed the hot water heating installation in the Osborn Building at Port Jefferson, N. Y.

Winthrop, Me., is planning a new water system for the town which will cost approximately $90,000. It is planned to petition the Legislature for authority to issue bonds for the work, and to amend the town charter to permit it to be done.

Southport, Me., is installing a new water system and has let contracts for the same to the Lunt, Moss Company, of Boston. The water is to be pumped from Sawyer's pond into two storage tanks of black iron, of 12,000 gallons capacity each. Nine miles of pipe will be laid.

Wheeler Brothers & Co., Inc., have just been organized at Gardiner, Me., to engage in the plumbing and steam fitting business. The directors are: Harry A. Wheeler, president; Edward J. Hanley, treasurer; J. Austin Wheeler and Mary F. Wheeler, all of Gardiner.

Samuel C. Cannon, of Middleton, Conn., has been taken into partnership in the plumbing business by his father, Charles M. Cannon, in that town.

The National Heater Co. is the name of a new concern at 80 Boylston Street, Boston, headed by Victor O. Whitney and Edmund A. Reiser.

The F. B. Woods Co., of Everett, Mass., has been incorporated with a capital of $25,000, to conduct a plumbing, heating and ventilating business. The incorporators are Frank B. Woods, William H. Pickering and Mabel F. Hammond, all of Everett.

M. L. Howard has purchased the plumbing business of W. H. Bourne at Hope, Ark.

Wiggins & Gillespie, Bowling Green, O., have started to install the plumbing in the new college dormitory at Bowling Green.

John J. Siegfried has opened a plumbing establishment at 17th and Washington Streets, Easton, Pa.

The R. B. O'Brien Co., Dallas, Tex., has just finished the installation of the plumbing system in the Oriental Dyeing & Dry Cleaning Company's new building in that city.

The O'Prey Plumbing & Heating Co., Butler, Ga., has been awarded the plumbing and heating contract on the new Washington Memorial Library.

Wm. L. Lang has recently started in the plumbing and heating business at 1410 N. Allison Street, Philadelphia.

The Pulte Plumbing & Heating Co., Grand Rapids, Mich., has moved into its new two-story home at 325 Ottawa Avenue, N.W.

T. J. Hughes, formerly with the Herington Hardware Co., Herington, Kans., has purchased the plumbing business of Krig & Smetler, in that city.

The basketball team of the Wright Plumbing and Heating Company, Hutchinson, Kans., defeated the Reformatory team by the score of 16 to 14.

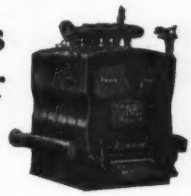
Work has been started on the new brick building for James Samson, plumbing contractor, Post City, Tex.

A. Williams, Neosho, Mo., has just completed the building of his new plumbing shop.

MODERN HOTEL WITH SWIMMING POOL TO BE BUILT IN PORT-AU-PRINCE, HAITI

An American business man in Port-au-Prince, Haiti, is planning the erection near Port-au-Prince of a hotel containing thirty-five rooms, each equipped with a shower. A swimming pool and golf links will also be provided. The estimated cost will be about $30,000, and an opportunity is offered American firms to install plumbing and water systems. The hotel will be designed to meet the requirements of travelers who desire accommodations similar to those customary in the United States.

Pierce Smokeless Updraft Boiler



CAPACITIES
From 1400 to 10,000 Steam
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Order from us or through your local jobber

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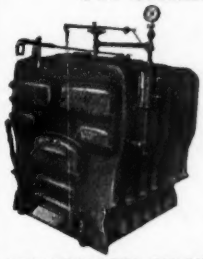
For Steam and Water Heating



Built to assure highest heating efficiency and fuel economy.
Maximum prime heating surfaces.
Fire travel so effectually harnessed as to distribute uniformly the products of combustion throughout heater.
All parts readily accessible for cleaning.

Round and square patterns. Sizes and capacities for every requirement. Conservatively rated.

Write for catalog

ABENDROTH BROTHERS, Port Chester, New York
ESTABLISHED 1840

When you use SHUR-TITE Boiler Cement, you are using the best

Guaranteed

to permanently seal leaks in boilers and radiators.

Liberal Discounts to the Trade

THE SHUR-TITE MFG. CO.
NORWOOD, CINCINNATI; OHIO

The Automatic Shut-Off Feature
of the
Leonard Water Mixing Valve
(Thermostatic)

Should the supply of either hot or cold water fail, an unfailing shut-off prevents the scalding or discomfort of the bather. As long as both hot and cold water enter the valve, the temperature of the shower will not vary from the point at which it is set, regardless of the volume drawn off. *Your jobber will quote you.*

LEONARD-ROOKE CO., Providence, R. I.

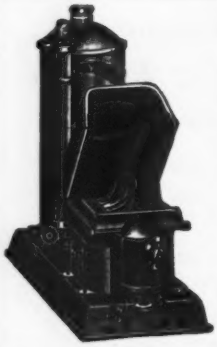
WE MANUFACTURE the only perfect Back Water, Sewer and Tide Trap on the market. The Barrett Trap is warranted and guaranteed.

James Barrett Mfg. Co. 115-121 Pearl St. Boston, Mass.

THE BEATON & CORBIN MANUFACTURING CO.

Southington, Conn.

All Types of Floor and Ceiling Plates



Results Are What Count

Mechanics who use DOUBLE BLAST Gasoline Fire Pots know that the maximum amount of heat can be obtained from the minimum amount of fuel by using a DOUBLE BLAST.

The letters of the words "DOUBLE BLAST," aptly represent many important and superior points in the construction and operation of the DOUBLE BLAST. Read them over.

Double Burners
Odorless
Unrivaled
Blue Flame
Lasting
Economical

Best
Labor Savers
Aluminum Bronzed
Safety
Time Savers

Leading jobbers handle them. If your jobber does not handle them, send us your order and we will ship direct. Additional information and circulars will be furnished upon application.

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29th and State Sts. NORTH CHICAGO, ILL.

PLUMBERS' ENAMELED IRON GOODS

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Jones Hollow Ware Company
BALTIMORE, MD.

LARGE BUILDING TOTAL FOR CANADA IN 1922

Building in Canada in the year just closed totalled $331,843,000 covering 28,153 projects. Of the provinces, Ontario led with $166,628,000. The western provinces reported as follows: British Columbia, $27,466,300; Manitoba, $9,365,800; Alberta, $8,902,500; and Saskatchewan, $5,034,000. There were a total of 21,054 houses built in the Dominion during the year.

VANCOUVER BOARD TO ISSUE BONDS FOR NEW SEWERS

The Vancouver and District Sewerage Board will issue debentures totalling $725,000. The money will be used principally in the building of new sewers.

MAYOR OF VANCOUVER OPPOSES SENDING DELEGATES TO OUTSIDE CONVENTIONS

There is at least one mayor who is not a thorough believer in conventions. Mayor C. E. Tisdall, of Vancouver, has lately caused a ripple in civic circles by voicing strong opposition to the city sending delegates to outside conventions. But the mayor has not yet stated any opposition to conventions, when they are held in his own city.

PLUMBER A MISSIONARY OF GOOD HEALTH, SAYS EMINENT HEALTH OFFICER

"If the individual attends to his personal hygiene, the benefits soon will be extended to the general community.

"Legislation is not effective in matters of health unless each person is made to feel that this good health business is his particular problem," says Dr. Francis X. Mahoney, Health Commissioner of Boston, Mass.

Here, in a few words, Dr. Mahoney has pointed out the importance of the plumbing dealer in effectively promoting public health. The modern plumbing dealer does what legislation cannot undertake through the individual, he persuades the public to use effective modern means of preventing disease.

The modern plumbing dealer, by virtue of his regular business, is a missionary of good health. He finds it an essential of good business to maintain, in his store, a display of the most modern, sanitary plumbing equipment of all sorts. By this exhibit he impresses upon the public mind the need and the means for practicing personal hygiene.

He invites the individual study of every home, with reference to complete, modern sanitary plumbing. He keeps an accurate record of homes where he has installed one or more plumbing appliances. He knows exactly what additional equipment is needed in each of these homes.

This intelligent action to promote business is certain to result beneficially to the public. Every home in which the modern plumbing dealer installs sanitary equipment, is a home fortified against sickness. As Dr. Mahoney explains, individual good health is reflected in the health of the entire community. Thus the modern plumbing dealer renders a service that is praiseworthy as well as necessary.

OBITUARY

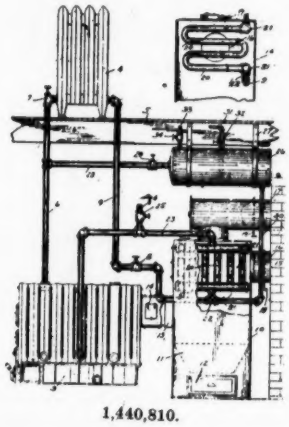
Pierce J. Bradley, the first city plumbing inspector of Harrisburg, Pa., died at his home in that city on January 12th, in his 58th year.

E. Skanell, engaged in the heating contracting business at 259 West 126th Street, New York City, died at his home in that city, on Tuesday, January 16th.

Patents

HEATING DEPARTMENT

1,440,810. Auxiliary Heater. August Zacharias, Minneapolis, Minn. In a heating plant, the combination with a main boiler and a casing connected to the smoke pipe thereof and affording a secondary combustion chamber, of a tubular auxiliary water heater located in said secondary combustion chamber above the smoke pipe connection thereto from said boiler, said casing having a smoke pipe leading from the upper portion thereof, a radiator, a hot water tank, return pipes connecting said radiator and hot water tank to the lower portion of said auxiliary heater, a secondary return pipe leading from

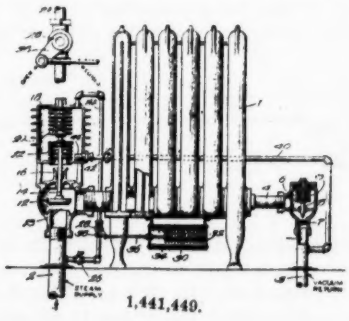


1,440,810.

the upper portion of said auxiliary heater to the lower portion of said boiler, a hot water delivery pipe leading from the upper portion of said boiler to said radiator and having a branch pipe leading to said hot water tank, a water pressure supply pipe leading to said hot water tank and supplying water to the heating system, and a valve-equipped hot water draw-off pipe leading from the upper portion of said tank.

* * *

1,441,449. System of Temperature Control. Edward P. Rich, Chicago, Ill. In a vacuum heating system, the combination of a radiator, a steam supply pipe leading



1,441,449.

thereto, a main shut-off valve for controlling the steam supply, a control chamber, a thermo-sensitive element in said control chamber, adapted to actuate said valve and

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SCIENTIFIC COMBUSTION

BOILERS

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Michigan City Indiana

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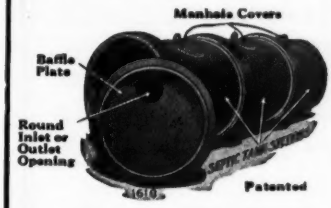

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No forms, bolts, or reinforcing to complicate the work.

Your customer will also prefer this permanent material when he understands its merits as you know them from experience.

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Heats 8-room house by hot water. Gives separate domestic hot water. Cooks and bakes. No extra coal. 350 sq. ft. of radiation. 70° in zero weather guaranteed.

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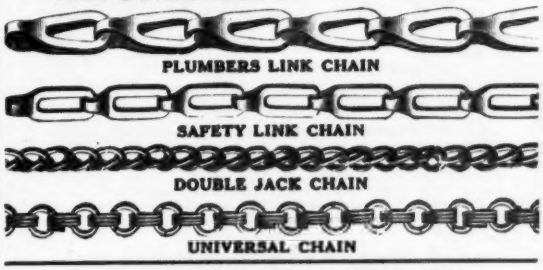
PLUMBERS CHAINS



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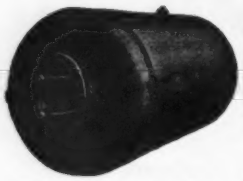

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Cistern and Riveted Pressure Boilers
can be described in one word—
Everlasting

They not only *last* but give continuous, satisfactory service.
Made in any size, pressure or capacity desired.

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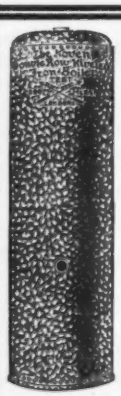

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A vitreous china tank with a set of real fittings
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Recognized superiority in the design, construction, material used and finish, with a high reputation for reliability and dependability, have kept MYERS POWER PUMPS AND WORKING HEADS at the front for many years and have made them leaders in their particular field. With styles and sizes to meet almost any capacity requirements, and adapted for operation by any power. Myers Power Pumps will pump your water supply on an economical and highly satisfactory basis. If interested in pumps for home, farm, mill or factory, write us for catalog and information.

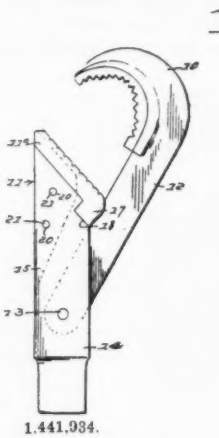
The F. E. Myers & Bro. Co., Ashland, Ohio

POWER PUMPS

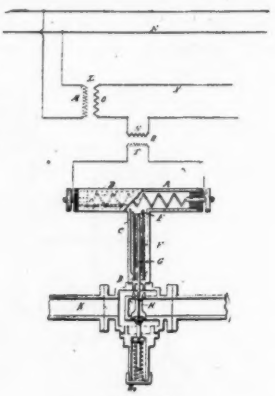
close the same when heated, a by-pass leading from the steam supply pipe on the supply side of the main shut-off valve to said control chamber, a master valve in said by-pass, a thermostat for controlling said master valve, a vacuum return pipe leading from the radiator, and a pipe leading from said control chamber to said vacuum return pipe.

* * *

1,441,934. Wrench. George Kuhns, Duncan, Okla. A pipe wrench having a shank bifurcated at one end and carrying a swinging jaw of which the arm is pivotally mounted in the space between the cheeks of the bifurcation, complemental jaw members having ears disposed in the interval between said cheeks, the rear ends of said jaw members having downwardly deflected tongues and the shank having a transverse seat for interlocking engagement with said tongues, and means for preventing endwise movement of said ears.



1,441,934.

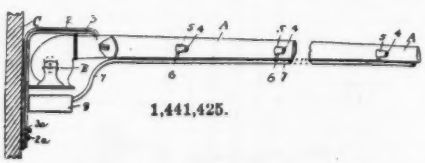


1,441,549.

1,441,549. Thermostatic Controlling Device. Herbert J. C. Wells, New York, N. Y., assignor to Monitor Controller Company, Baltimore, Md. The combination with a tube and a right-angled extension from near the center thereof and containing fluid, of a resistance wire with circuit terminals in the main tube, a cylindrical corrugated diaphragm connected at one end to the end of the extension tube, and having the other end closed and carrying a regulating rod extending through the cylindrical diaphragm and through the end of the extension.

* * *

1,441,425. Air-Moistening Apparatus. George Frederick Jackson, Blackburn, England. In apparatus of the class to which this invention relates, a main conduit, a fan casing to which said conduit is connected, a fan mounted in said casing, a pipe for conducting liquid to the main conduit, another pipe for conducting fluid or gas under

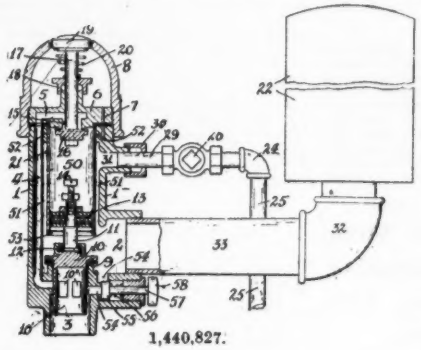


1,441,425.

pressure to said main conduit independently of the fan, discharge nozzles opening from the walls of said conduit, a shield surrounding and extending beyond the outer end of each nozzle and spaced therefrom to form a passage between said shield and said nozzle, a main gutter below the main conduit, a trough leading from each shield to the main gutter, and a receptacle into which the main gutter discharges.

PLUMBING DEPARTMENT

1,440,827. Flushing Apparatus. Lucien H. Handy, Oakland, Calif. A flushing apparatus comprising a shell having an inlet and an outlet communicating with said inlet; a cylinder within the shell so disposed as to leave a circumferential space between its outer surface and the inner surface of the shell wall, said space being closed at one end and open at the other end to the shell interior, and said cylinder having in its wall a relatively small port

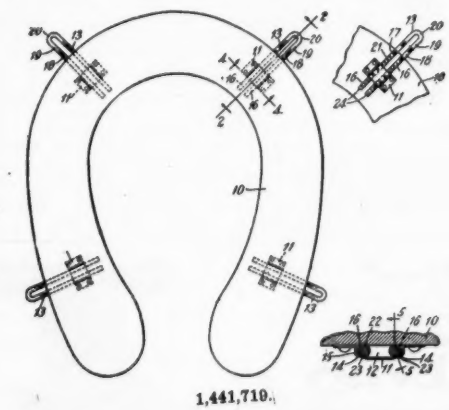


1,440,827.

through which the circumferential space communicates with the interior of the cylinder; a supply pipe communicating with the shell interior; a main-valve within the shell controlling the communication between the shell inlet and outlet; a piston connected with and operating said main valve, said piston being fitted in the cylinder and exposed below to the fluid pressure from the inlet; a by-pass leading from the interior of the cylinder above the piston to the shell outlet below the main valve; and a relief valve controlling the communication of the by-pass with the interior of the cylinder.

* * *

1,441,719. Toilet Seat. Gustav A. Almorth, Wallingford, Conn. In combination, a member, a strap adapted to be attached to said member and adapted to co-operate therewith to form a passage therebetween, said passage having a wall inclined toward opposite sides thereof, said inclined portions of said wall having lips formed integral



1,441,719.

therewith, and a supporting member embodying therein parallel arms adapted to be inserted within said passage, each of said arms having notches therein into which said lips are adapted to lock to prevent longitudinal movement of said supporting member relatively to said strap.

Go back to the first editorial page and read about the good things that are coming.

Easy to Clean Out

The Round Boston Grease Trap is made particularly for installation under sinks and in small restaurants. The cover plate, which is the full diameter of the body of the trap is held in place by a single nut. This large opening makes it very easy to clean out accumulated grease. Also made in square pattern for use where space is limited in height.

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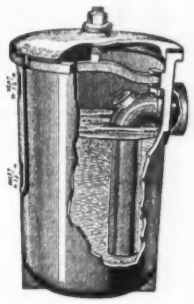

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Water Closets for every type or class of service.

Frost Proof Closets. Direct flush or after flushing.

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Against Flooded Basements

Where the Signet Drain is installed there can be no back water.

A perfectly reliable trap that automatically keeps out sewage, gas and germs.

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Situations Open

WANTED—PLUMBER WITH SOME heating experience. Open town north central Illinois. State age, experience and salary expected. Address 719, "Domestic Engineering," 1900 Prairie Ave., Chicago. 1-27

WANTED—AN EXPERIENCED HEATing salesman to sell and act as sales manager for a heating specialty manufacturer located in the Middle West. Address 716, "Domestic Engineering," 1900 Prairie Ave., Chicago. 1-27

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FOR SALE CHEAP—ONE SECOND hand No. 300 Ruud Automatic Water Heater. One second hand No. 4 Pittsburg Automatic Water Heater. Good condition. Tholen Bros. Supply Co., Leavenworth, Kansas. 1-27

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We will pay cash for patents of merit or will manufacture on a royalty basis products used by the plumbing and heating trade. When replying state full particulars, mailing copy of patents, if any. We may also finance small manufacturers and take the entire output. Address 718, "Domestic Engineering," 1900 Prairie Ave., Chicago. 1-27

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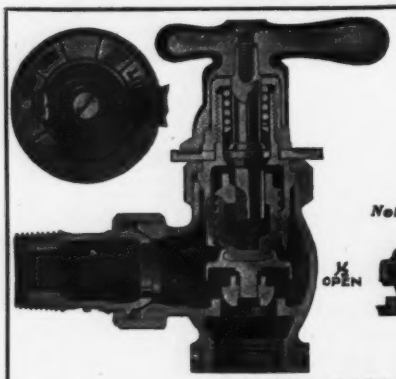
Government Proposals

TREASURY DEPARTMENT, SUPERvising Architect's Office, Washington, D. C., January 10, 1923.—Sealed proposals will be opened in this office at 3 p. m., February 7, 1923, for new plumbing, etc., in the United States Court House, Post Office, etc., Montpelier, Vermont, in accordance with specification and drawing, copies of which may be had at this office or at the office of the Custodian, Montpelier, Vermont, in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect. 1-20-27

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., Jan. 17, 1923.—Sealed proposals will be opened in this office at 3 p. m., Feb. 7, 1923, for the Mechanical Equipment (exclusive of outside services, elevators, lighting fixtures and certain equipment) of the Administration Building and Mess Hall and Kitchen Building, at the U. S. Veterans' Hospital, Chelsea, N. Y. Specifications may be obtained at this office in the discretion of the Supervising Architect. Proposals will be considered only from individuals, firms or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract, and who have established a record for expedition on contracts of similar character and magnitude. The fact that any concern obtains a set of the plans and specifications from any source whatever and submits a bid shall not constitute a waiver of the foregoing stipulations. Jas. A. Wetmore, Acting Supervising Architect.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., January 18, 1923. Sealed Proposals will be opened in this office at 3 p. m., February 15, 1923, for furnishing and installing laundry machinery at the U. S. Veterans' Hospital, Chelsea, N. Y. Specifications may be obtained at this office or at the office of the Superintendent of Construction, at Chelsea, N. Y., in the discretion of the Supervising Architect. Proposals will be considered only from individuals or firms, or corporations possessing satisfactory financial and technical ability, equipment, and organization to insure speedy completion of the contract, and who have established a record for expedition on contracts of similar character and magnitude. The fact that any concern obtains a set of the plans and specifications from any source whatever and submits a bid shall not constitute a waiver of the foregoing stipulations. Jas. A. Wetmore, Acting Supervising Architect.



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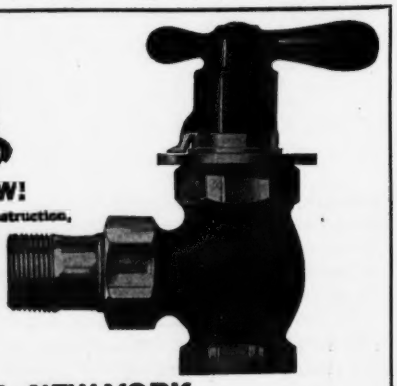

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